GIS Excellence Awards 2015

Fairfax County, Virginia

November 19, 2015

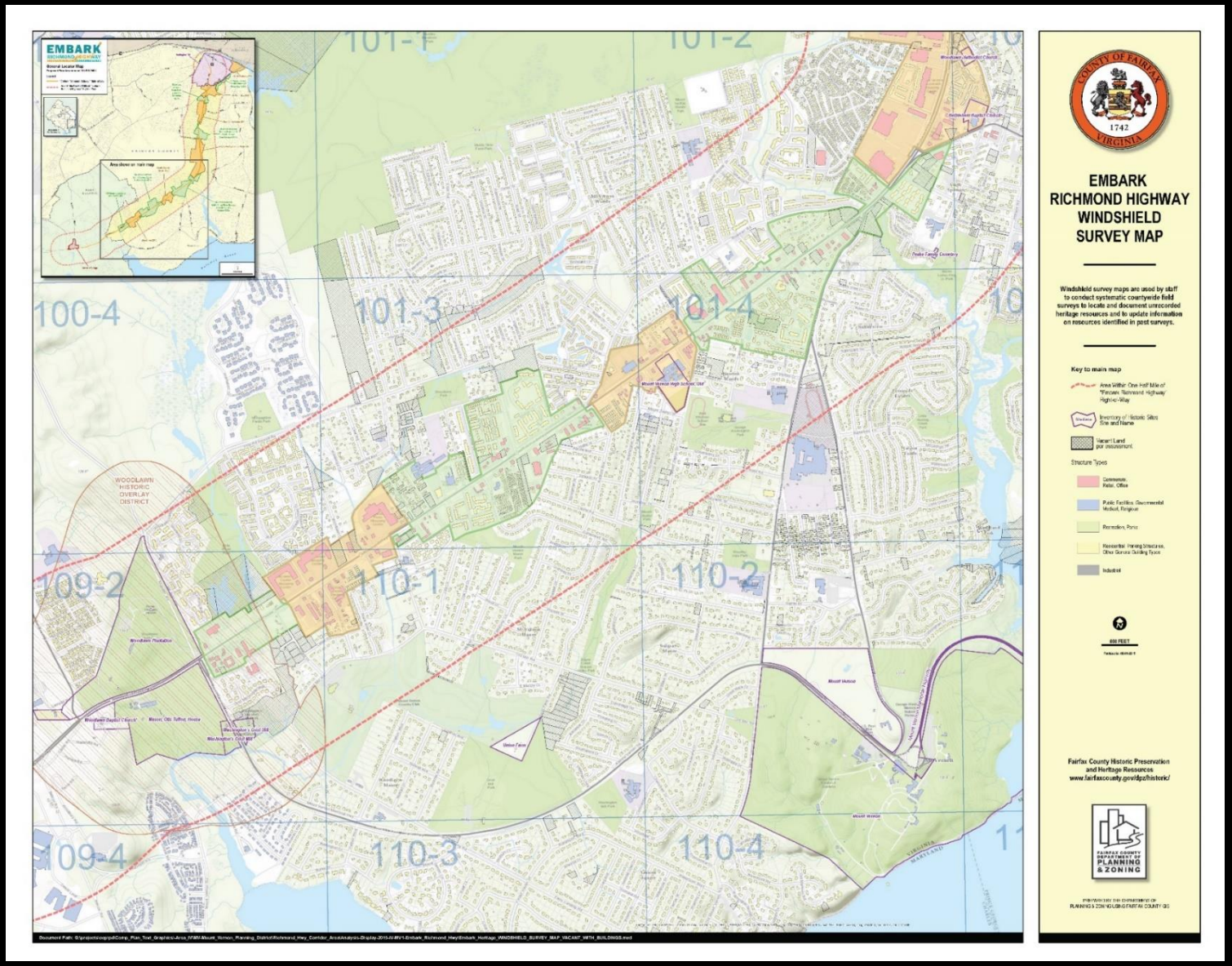
CARTOGRAPHIC CATEGORY

Third Place

Embark Richmond Highway-Windshield Survey Map-South Sheet

Harry Rado, Laurie Turkawski, Eva Campbell, Linda Blank

Department of Planning and Zoning



Fairfax County Historic Preservation and Heritage Resources

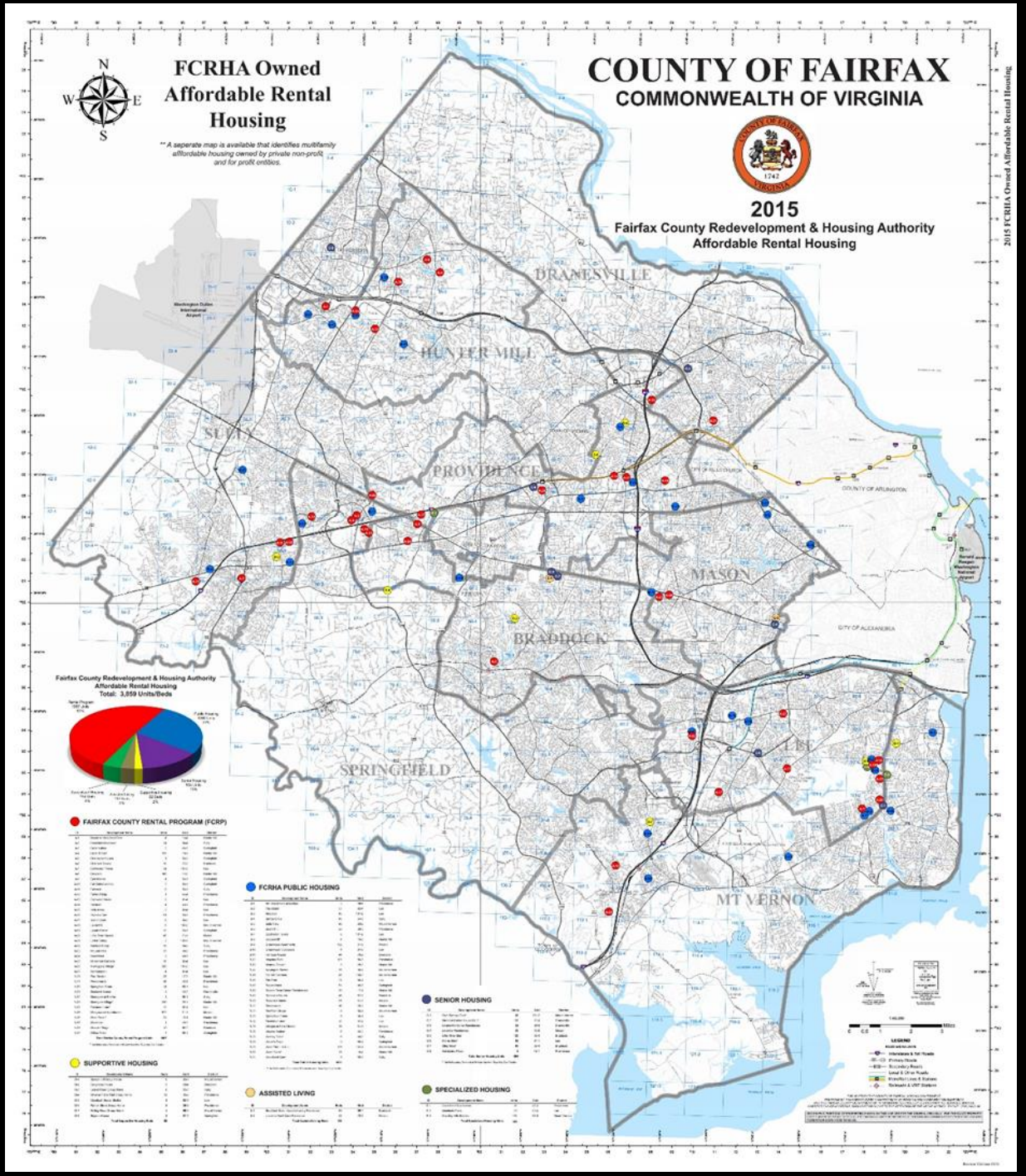
CARTOGRAPHIC CATEGORY

Second Place

FCRHA Owned Affordable Rental Housing

Peter Uhrmacher

Department of Housing and Community Development



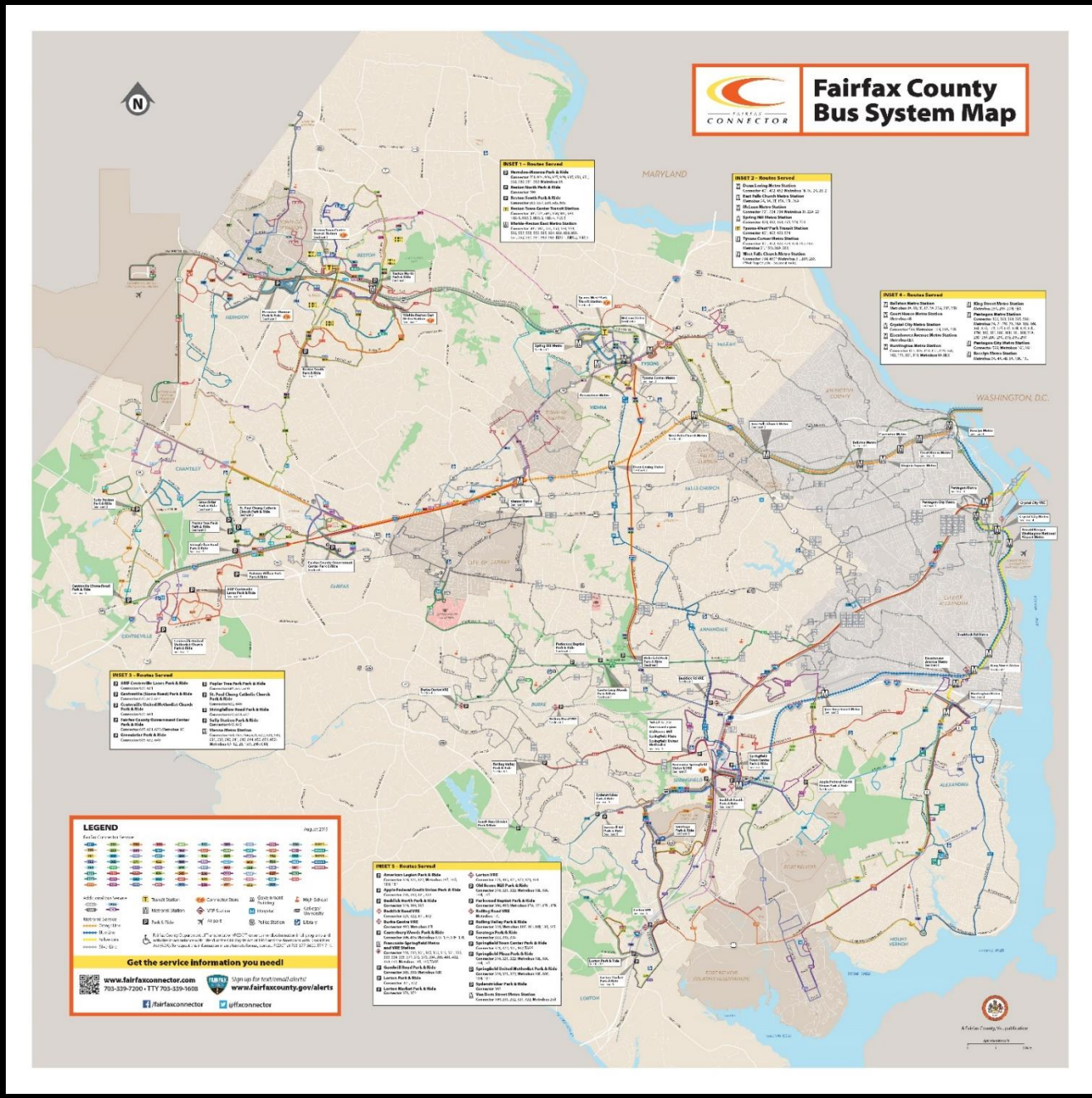
CARTOGRAPHIC CATEGORY

First Place

Fairfax County Bus System Map

Vincent Mendolia, Tom Wampler

Department of Transportation



ANALYTIC CATEGORY

Third Place

Walkway Analysis

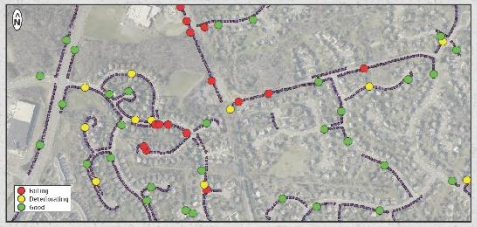
Chip Galloway, Andrew Nault, Keith Appler, Shaukat Faheem

Stormwater Management Division of the Department of Public Works and Environmental Services

Assigning Georeferenced Photos to Walkways

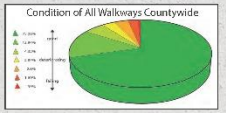
Automated Photographic-walkway Condition Assessment Assignment Based on Linear Condition Product Ranking.

We obtained 8200 walkway and 486 pedestrian bridge georeferenced photos. These walkway photos were then assigned a condition ratings.



MSMD staff linked the obtained data points and metadata to DPWES walkway asset ID's through the proximity status of each photo. MSMD staff resourced the assessment scores based on summed problem length multiplied by assessed severity.

The process that we used created an integer that represented the calculation of the product of the inverse of contractor severity and length. Assessment rankings were recoded to scale proportionally to damage. Preprocessing was done on walkway points where if a point was greater than 200 feet away from a valid DPWES walkway then that record was removed. Further, if a walkway was given multiple different severity ratings then all of the severity ratings were added. The equation used for the ranking was inverse severity rank multiplied by length where a higher score indicates a greater amount of degradation.

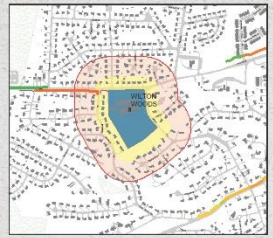


$\alpha * \beta$ = Assesed Severity

Assessed Condition	Condition Score (α)
Good	0
Deteriorating	2
Failing	3

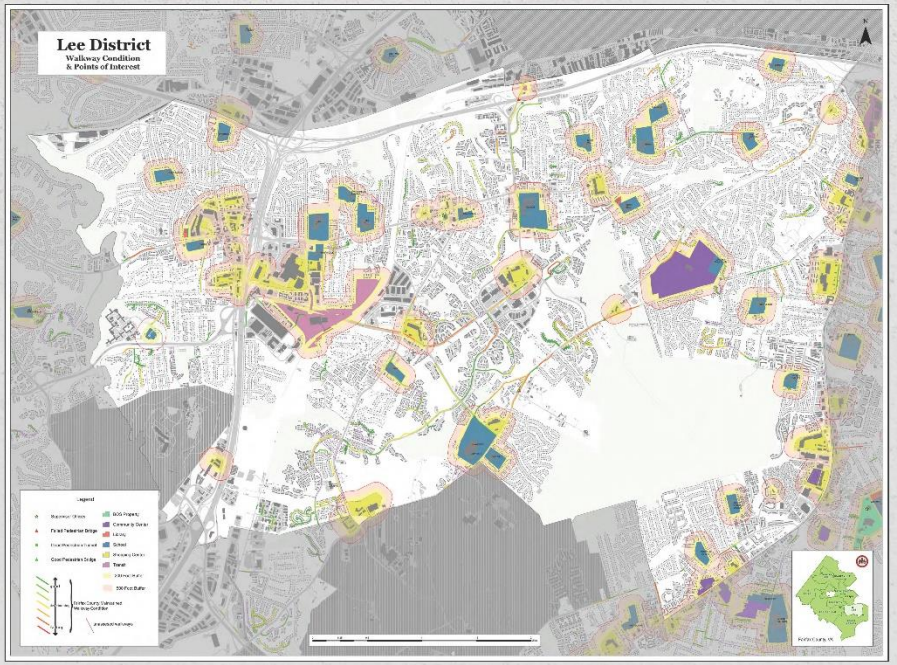
Length	Length Score (β)
Spot	5
< 10 ft	7
10-25 ft	18
25-50 ft	38
50-100 ft	75
100-200 ft	150
> 200 ft	300

Contractor assessed walkway condition was translated into a integer that when multiplied by length directly correlate to the deterioration status severity. Additionally, contractor length ranges (feet) were translated into discrete integers.



BUFFERS CREATED AROUND POPULATION CENTERS HELPS TO IDENTIFY HIGHLY USED WALKWAYS IN URGENT NEED OF REPAIR. (IMAGE TO THE LEFT SHOWS A DETERIORATED WALKWAY WITHIN 200 FEET OF AN ELEMENTARY SCHOOL)

MSMD staff made maps showing countywide walkway condition which highlighted the proximity to certain community resources, such as schools, VRE/Metro stations, community centers, and commercial centers.



ANALYTIC CATEGORY

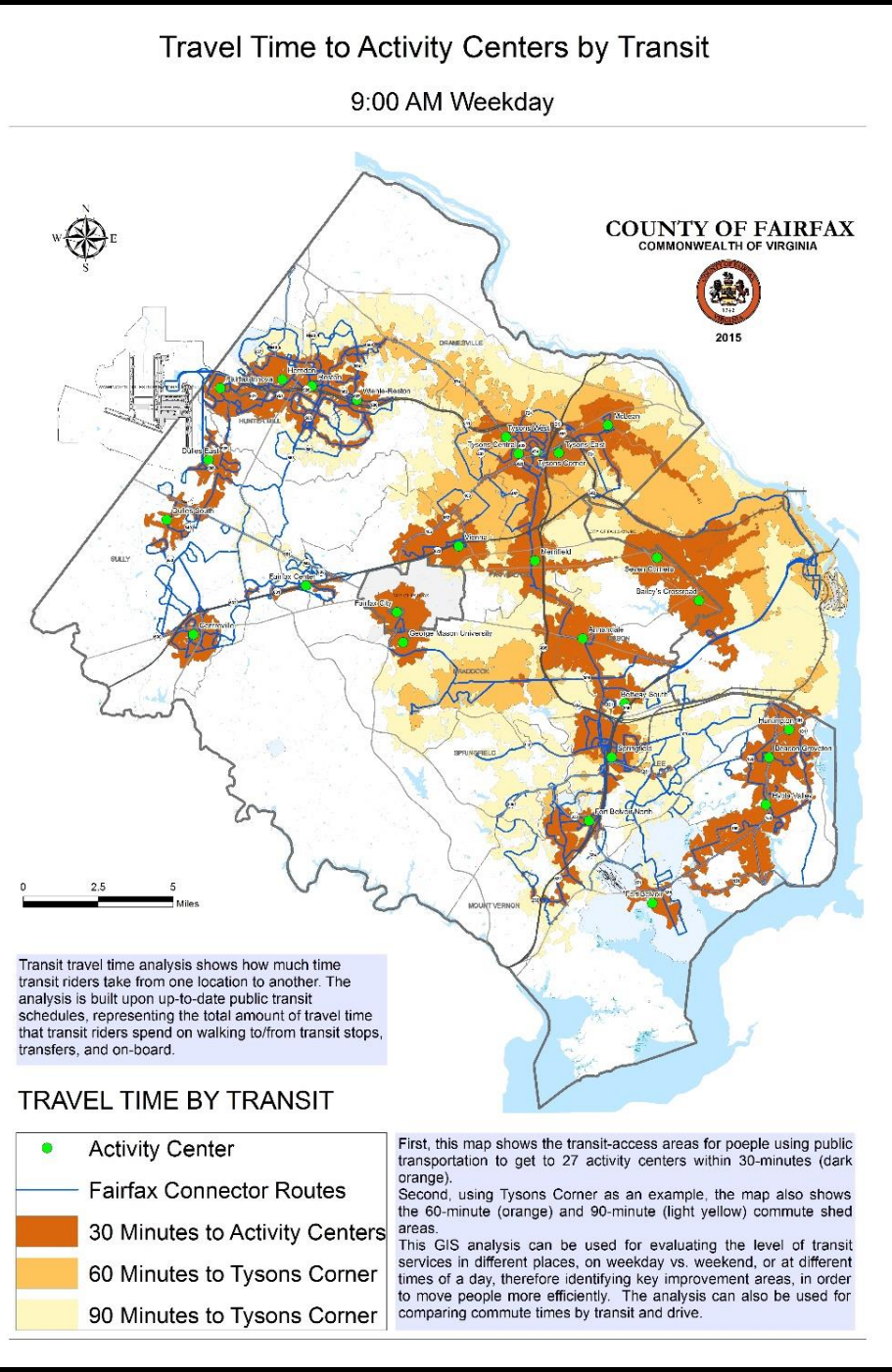
Second Place

Transit Travel Time Analysis for
Fairfax County Activity Centers

Hejun Kang

Department of Transportation

Fairfax Connector Data for Developers in GTFS Format



ANALYTIC CATEGORY

First Place

Finding Intersection

Christopher McCarthy

Public Safety Communications

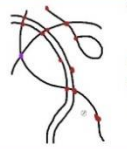
Finding Intersection:

When the Same two Roads Cross at Multiple Locations Answering the Question: "Where is Your Emergency?" Has Added Urgency

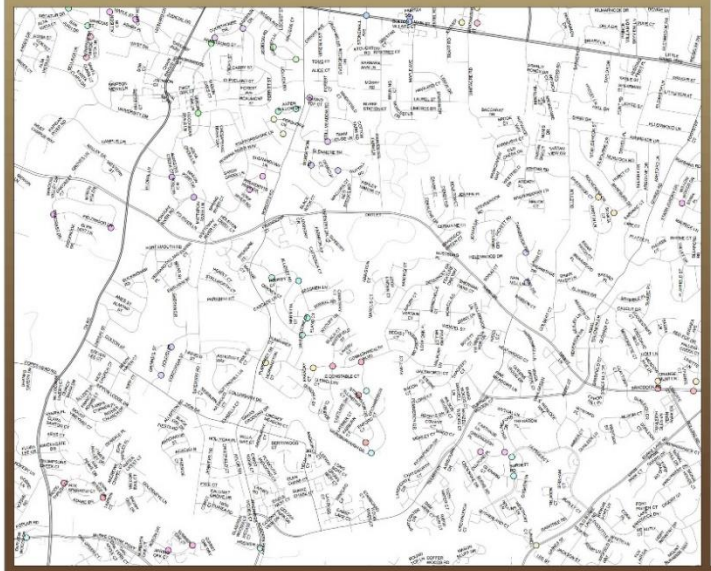
Analysis Objectives

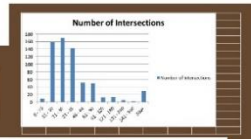
- Determine the roads that cross at multiple locations
- Rank the intersections by linear and network distance and time to traverse the route between points
- Improve call takers ability to identify these intersections and ask further questions to support better routing to calls
- Develop a list for training and a GIS layer to include in the CAD system to aid identification while verifying call locations
- Problem: No direct method to calculate intersections properly

The Conceptual Model



- Find 'True' Intersections
  - Intersections where road names are not the same
  - Also where road names are the same but aren't just breaks in road lines
- Identify each intersection as a unique location
- Use the frequency of each unique intersection name to identify which intersections are occurring in multiple locations
- Group the intersections based on their names
- Find the intersections greater than 500 feet from each other for each group
- Calculate the linear and network distances and travel time within each group and append to a final table





The Actual Model

- Model Builder was used to calculate the multiple crossing intersections
- Python was used to determine the linear distance, network distance and time of travel on the network between intersections
- Ranking the intersections was simply achieved by sorting the largest values from the distances and time values returned by the network analysis

Model Results and Impacts

- In Fairfax County there are over 625 intersections that are greater than 500 feet from each other
- This is much more than assumed initially
- Has been used as a training and reference tool for call takers
- Improved confidence from call takers
- Less risk of dispatching incorrect closest vehicle
- Improved customer service
- Increased knowledge of county geography by call takers

What is Next?

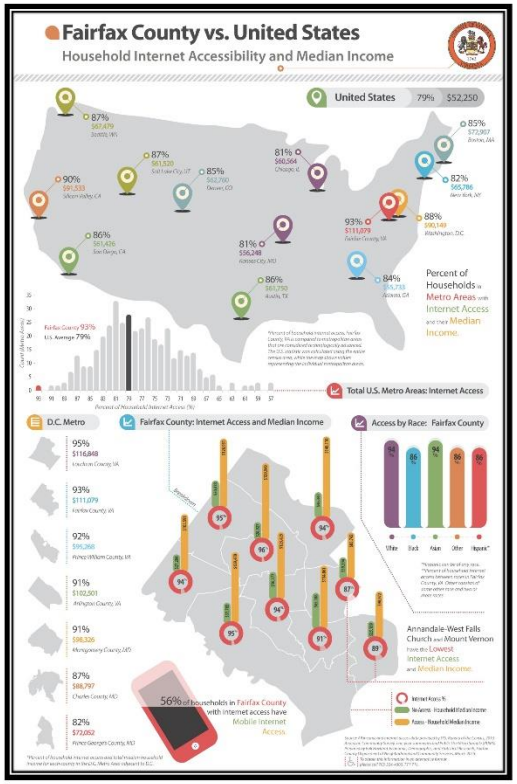
- Develop a GIS layer to be included in our CAD system to represent multiple crossing intersections
- Utilize cell tower sectors to identify multiple crossing intersections that maybe within the same sector and are not easily distinguishable from each other
- Analyze visibility using viewshed analysis to rank points whether they are visible from each other instead of an arbitrary distance

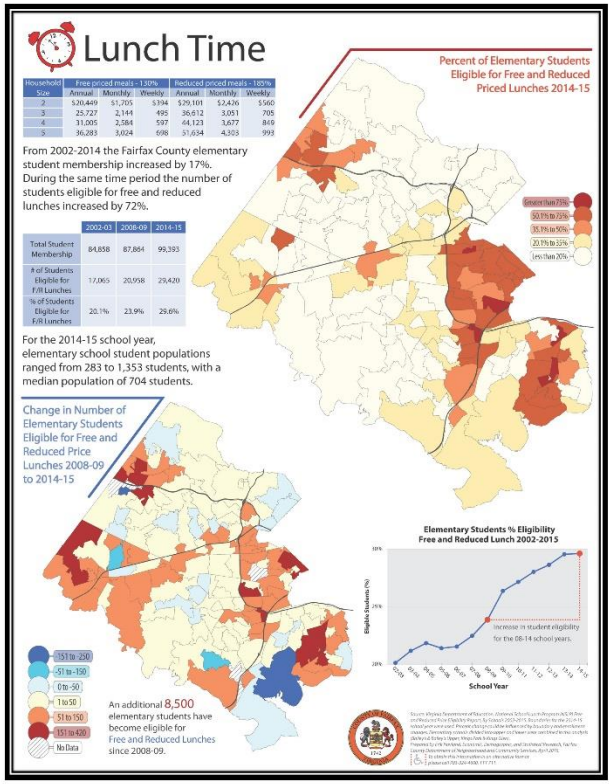
Seconds between Intersections Table of Ranked Intersections

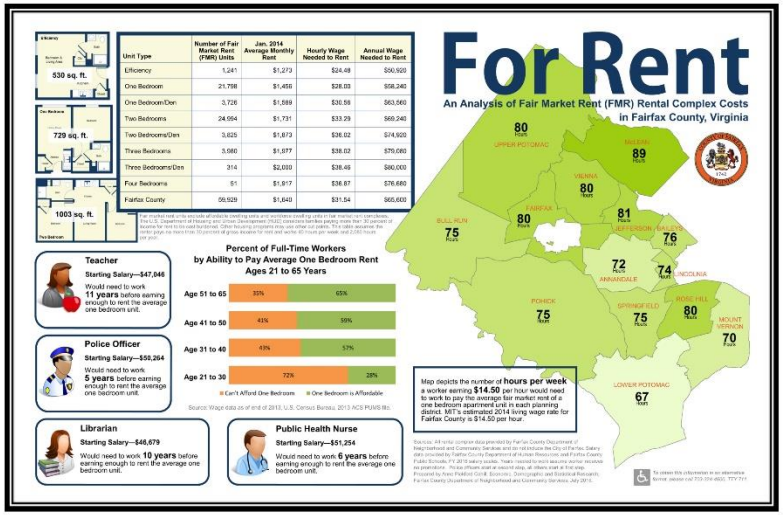
AGENCY CATEGORY
Best Use of GIS for Public Outreach

Economic, Demographic & Statistical Research Data Visualizations

Department of Neighborhood and Community Services







Economic, Demographic and Statistical Research

2015 Data Visualizations

Fairfax County
NCS
Neighborhood and Community Services

AGENCY CATEGORY
Best Use of GIS on the Web

Use of ArcGIS Online During Fairfax 2015: The World Police & Fire Games

Fire and Rescue Department

USE OF ARCGIS ONLINE DURING FAIRFAX 2015: THE WORLD POLICE & FIRE GAMES

The **2015 World Police & Fire Games (WPFG)** were hosted by Fairfax County in summer 2015. Nearly 10,000 athletes from 68 countries participated in the games, resulting in over 25,000 visitors to the region.

GIS played a critical role in the games, and ArcGIS Online became a very useful platform for data collection and information sharing.

Using ArcGIS Online, we were able to:

- Leverage the Special Events Template available via ArcGIS Solutions. By making only slight customizations, we avoided having to set up a special events map from scratch.
- Collect data via Collector; which, after minimal training, allowed non-GIS users involved in WPFG to collect data.
- Use the Group functionality to collaborate with other agencies, jurisdictions, etc.
- Create and share specific applications developed for Fire & Rescue, Police, and the Board of Supervisors.
- Create and share a situational viewer that was continuously updated with the latest information; for use in the Emergency Operations Center & Games Operations Center.
- Showcase the value of GIS and ArcGIS Online to everyone involved in the games.

Check out the apps!

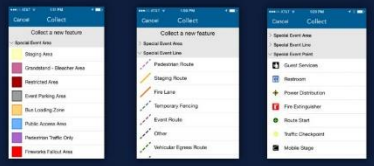
PRODUCT EXAMPLES

Groups

Provided the ability to share data and maps with a select group of users (not just in Fairfax), and keep content organized

Group Gallery App

A "one stop shop" to access all ArcGIS Online applications developed for the games



Utilizing the Special Events Template...

...and Collector for ArcGIS

Leveraging existing technology/templates saved time! Data collected in the field could be easily used in PDF & online maps

Situational Awareness Viewer

Provided access to data services related to the games. Always reflected latest schedule/venue changes. End user could query data, change basemap, zoom to venue location, print, etc.

Specialized Applications

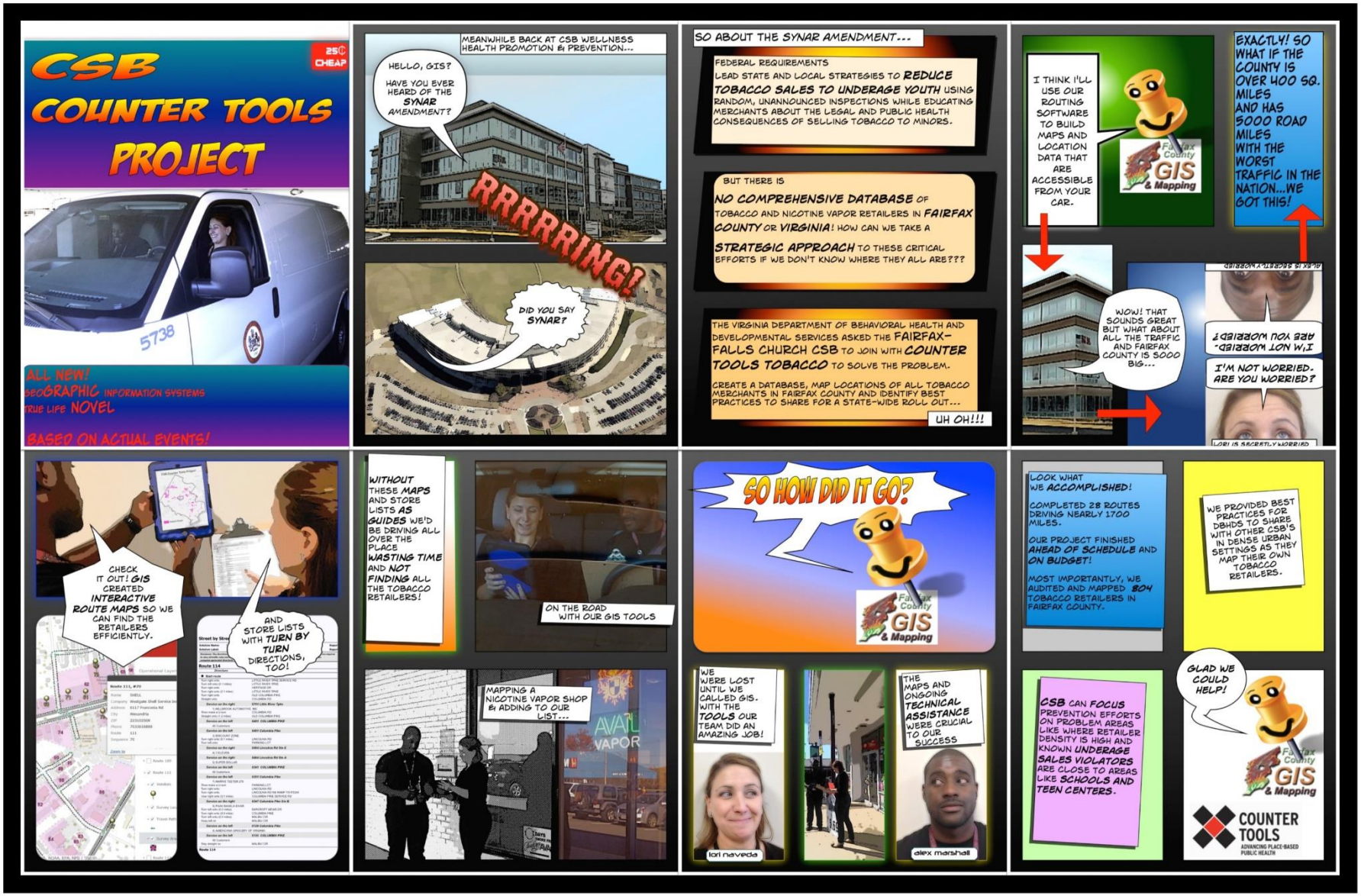
Allowed for easy data filtering by area & date

Author: Shelby Zelonis, Fairfax County Fire & Rescue Department. Special thanks to Judy Lamey-Doldorf, Eric Fisher, & Ian Gregoire.

AGENCY CATEGORY
Most Significant Data Contributor

CSB Counter Tools Pilot

Community Services Board



AGENCY CATEGORY

Best GIS Integration or Application Development

Fairfax County Fire & Rescue Department: Safety in Our Community (SIOC) Program

Fire and Rescue Department

Fairfax County Fire & Rescue Department: Safety in Our Community (SIOC) Program

The Fire & Rescue Department (FRD)'s Safety in Our Community (SIOC) program is a community outreach program that began in June 2013. SIOC embraces the FRD mission of "Preventing the 911 Call" by ensuring that residences in Fairfax County are equipped with information and supplies necessary to help protect them in the event of a fire or other emergency. As part of the program, firefighters go door-to-door, educating residents and installing smoke alarms, carbon monoxide alarms, and batteries in homes across the county.

SIOC: History

Historically, SIOC activities were documented using pen and paper. Addresses and data were written on a paper form, and this information was later transcribed into digital format. Any mapping of the activities was done through geocoding; however, obstacles such as spelling mistakes, transcription errors, etc. made this process cumbersome and inefficient.

The search for a mobile GIS solution!

The SIOC program is inherently geospatial. Attributes are collected at addresses – making the program the perfect candidate for a GIS-based field data collection solution. In 2015 we set out to find this solution:

Potential Solution 1: Collector for ArcGIS seemed like a great idea. All of our stations have at least 1 iPad to access to the app. However, we could not overcome the "named user problem" - i.e., we do not have enough named user accounts or the financial resources to obtain enough accounts to allow for data collection throughout the county.

Potential Solution 2: The Emergency Data Gathering Repository (EGDR) – an in-house, Fairfax County solution developed by the Department of Information Technology (DIT). EDGR is used for field data collection in the form of Windshield Surveys, so we brainstormed on how the application could be applied to SIOC. After meeting with DIT, we decided that EDGR was the perfect solution for SIOC.

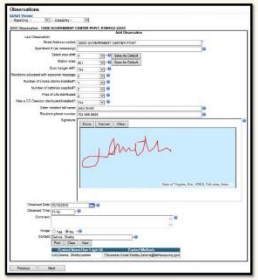
EDGR for SIOC: How does it work?

EDGR is available to FRD employees and is accessible on any device that has a browser and an internet connection. The application was loaded as an app onto each station's iPad for ease of use.

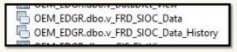
Step 1. Log-in to EDGR, type in the address you are visiting.

EDGR verifies the address and determines the XY location of each entry by querying a customized map service provided by DIT-GIS.

Step 2. Record SIOC activities.



Step 3. Retrieve and analyze data.



Data collected in EDGR are automatically saved to a spatially-enabled SQL View that can be displayed via a Query Layer in ArcMap, or accessed by data analysts via Management Studio. All reporting is done from one master dataset!

SIOC & EDGR in action

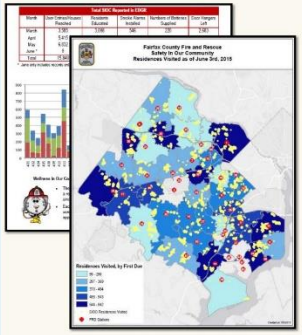
In March 2015, EDGR for SIOC was deployed. Data collection via iPads is easier than ever.

EDGR uses domains and other restrictions on fields, so data collection errors are few and far between.

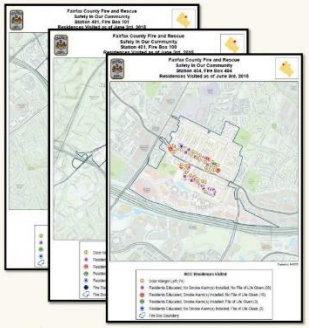
Displaying and reporting the results: Product examples

Because the collected SIOC data is accessible to the FRD via a spatially-enabled SQL View, retrieving, displaying, and analyzing the data is simple and efficient. No more manual transcribing and geocoding!

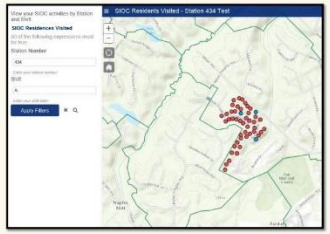
System-wide reports



Data Driven Pages: Reports by Fire Box



Web Mapping Application in Development



ArcGIS Online allows for up-to-the-minute reporting via a link to the SQL database.

Documenting Saves! Easy data access/ reporting allows us to tie our incident data to SIOC activities.

Conclusions

Finding a mobile GIS solution for SIOC has revolutionized the program. Through this process we were able to:

- Leverage existing county technology (EDGR) for a cost-efficient transformation
- Eliminate large sources of error through mobile data collection and automatic address verification; no more data transcription and ArcMap geocoding
- Provide a direct link between the data collected and the data analyzed via MS SQL Server: now Data and GIS Analysts all access, analyze, and report from the same data source, eliminating potential confusion, copies of data, and sources of error. These data can also be linked with our incident data to document lives saved by SIOC.

Authors: Fairfax County Fire & Rescue Department (Maura Ardike, Eric Fisher, Shelby Zelonis, Ian Gregoire, Bill Betz) . Special thanks to Karen Rubal in DIT for her work on EDGR!

AGENCY CATEGORY
Most Significant Progress

Human Services Environment in Reston

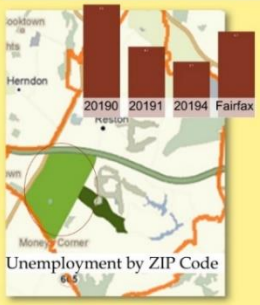
Department of Neighborhood and Community Services

Human Services Environment in Reston

This report brings together Human Services-focused census and county data to support decision-making about the Reston Town Center North redevelopment project. The data are organized by the focus areas that guide the county's Human Services work as a way to highlight certain program goals and at-risk populations.

Current Human Services Assets in Reston

Economic Self-Sufficiency



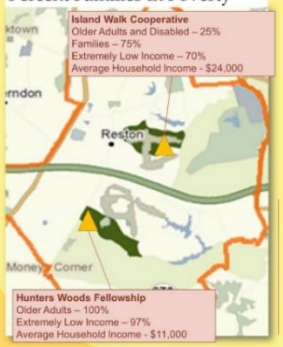
Unemployment by ZIP Code

NONPROFIT ASSETS			
1	Capital Area Food Bank Farmers Market	10	Lake Anne Fellowship House
2	Cedar Ridge Community Resource Center	11	Laurel Learning Center (Cornerstones)
3	Christ Fellowship Church	12	LINK
4	Cornerstones (Employment Services)	13	Reston Community Church
5	Emery Rucker Community Shelter	14	Reston Drop-In Center
6	FAITH	15	The Closet of Herndon
7	Herndon-Reston FISH	16	Volunteer Solutions
8	Hunter Woods Fellowship House	17	YMCA – Reston
9	INOVA Medical Facilities		
GOVERNMENT ASSETS			
18	Cedar Ridge Comm. Resource Center	31	Island Walk Housing
19	Cedar Ridge/Forest Edge Computer Center	32	Lake Fairfax Park
20	Crescent Apartments	33	Reston Comm Ctr (2)
21	CSB – Mental and Behavioral Health	34	Reston Glen Apartment Homes
22	DFS Adult Protective Services	35	Reston Regional Library
23	DFS Self Sufficiency	36	Skillsource
24	Embry Rucker Shelter	37	Southgate Comm Ctr
25	FCPD Reston Station	38	Stonegate Village
26	Harbor House Housing	39	Teen Ctr at Hutchison ES
27	Health Department Clinic	40	Teen Center at McNair ES
28	Healthworks FQHC	41	West Glade Apartment Homes
29	Herndon Neighborhood Resource Center	42	YMCA – Reston (Teen Center)
30	Herndon Senior Center		

A key factor in Human Services planning is the location and types of services available to at-risk populations. This asset map, populated with Human Services Resource Guide data, shows the location of current services offered.
Does the distribution of services align with current and future need as detailed in the accompanying information?

Positive Living for Older Adults and Individuals with Disabilities

Percent Families in Poverty

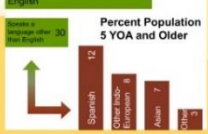


Healthy People

Population without Health Insurance

Connected Individuals

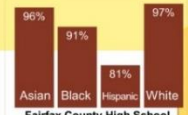
25% of Population Not English proficient



policymap

Successful Children and Youth

- Disparities in educational attainment
- 28% of Fairfax County students receive free and reduced meals
- 78% of Reston's Dogwood Elementary students



Fairfax County High School Graduation Rate

Sustainable Housing

- 35% of renters and 25% of homeowners are burdened by the combined expense of housing and utilities
- 43% of Coordinated Services Planning calls are for housing-related financial assistance

[Human Services Reports]

[Human Services Resource Guide]

Fall cankerworm (*Alsophila pometaria*) defoliation in Fairfax County:

Data Collection, Analysis & Application

Fairfax County Forest Pest Management Branch

Introduction

The fall cankerworm (*Alsophila pometaria* Harris) is a native, defoliating insect which feeds on a broad variety of hardwood trees, notably maple, hickory, oak and beech (figure 1). Periodic outbreaks of this pest are common, especially in older declining forest stands. In Fairfax County, the Mount Vernon, Mason and Lee magisterial districts have in recent years, experienced the most severe infestations and associated defoliation. The Forest Pest Management Branch has gathered data on fall cankerworm female abundance since the early 2000s. Methods which guide current population monitoring of *A. pometaria* in Fairfax were developed according to peer-reviewed research conducted in the 1960s and 1970s by the US Forest Service. Flightless female moths are caught in sticky traps as the insects climb host trees to mate and lay eggs. As with most insect population dynamics, fall cankerworm's population has cycled in Fairfax County over the past 15 years. Research dictates that if a cumulative count of 90 females or more per trap per season is observed, a severe infestation and associated defoliation is likely the following spring (Kegg 1967). Observations of population outbreak levels occurred in the winters of 2012 and 2013 and declining populations in 2014 (see Figure 2).
However, observations over time by urban foresters suggested that the threshold count of 90 females did not always correlate with a reliable defoliation prediction.
Multiple factors may have contributed to this observation and in 2015, urban foresters sought to collect a variety of data, including an intensive ground-based defoliation survey to elucidate potential factors which may have impeded the reliability of the female moth count data.

Figure 1: Fall Cankerworm Defoliation
Fall cankerworm caterpillars feed on leaves, such as the oak pictured (above). When populations reach outbreak levels, larvae can defoliate entire trees (left).

Fairfax County Average Fall Cankerworm,
A. pometaria Female Counts 2000-2014

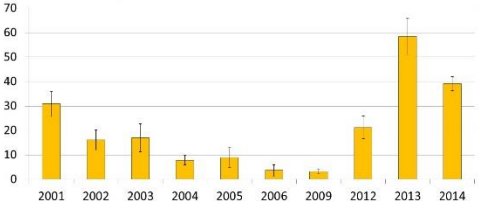


Figure 2: Average fall cankerworm (*A. pometaria*) females counted from 2001 – 2014. The above graph shows the average fall cankerworm female counts collected during the active period of the adult *A. pometaria* female moths (bars represent standard error of the mean). An observed pattern of rising and declining populations has occurred with a stark increase occurring from 2009 until 2012 which was considered to be outbreak levels.

Defoliation Survey & Analysis

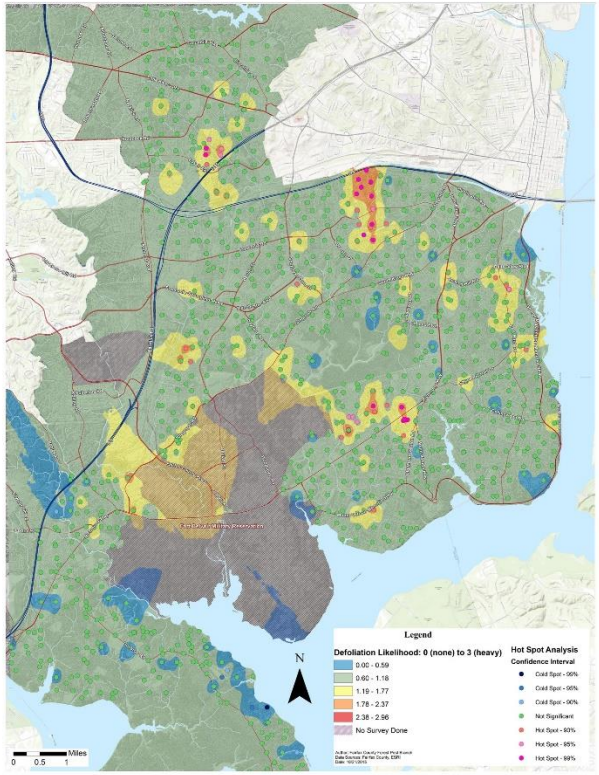


Figure 3: Inverse Distance Weighting (IDW) Interpolation of 2015 *A. pometaria* defoliation surveys.
A raster image was created from a grid system of survey points in order to describe data between survey points using Inverse Distance Weighting interpolation (Spatial Analyst Extension). Each grid location in a 2000 foot network was surveyed by a team of two urban foresters in May-June 2015, comprising a total of 995 points. Defoliation was described as none (0%), low (category 1: 1-30%), moderate (category 2: 31-60%), heavy (category 3: 61-80%) and severe (category 4: 81-100%). No instances of severe defoliation were observed.
Further, in order to test the significance of the observed defoliation, the Hot Spot Analysis tool was utilized (Spatial Analyst Extension). This metric determined which clusters of moderate or heavy defoliation were indicative of an infestation or an increased potential for subsequent defoliations as measured by significance. The majority of points were not considered to be significant as most of the data was measured as low defoliation (1-30%). Only one significant cold spot was identified in the Mason Neck area of Mount Vernon District. Several significant hot spots were identified. The most important of which were four separate groupings: near Route 1 in Mt. Vernon, between Franconia Rd. and I-95 in Lee District, north of Edsall Rd. and I-395 in Annandale and west of the George Washington Memorial Parkway in Fort Hunt.
Based on a threshold of 90 insects per trap, oftentimes, areas which were predicted to be defoliated had no to minimal damage. Yellow and orange polygons from the IDW analysis which did not have a corresponding significant hot spot (green dots) exemplify this phenomenon.

Collector for ArcGIS

The application was introduced to Forest Pest staff by DIT, GIS for use with hazardous trees. Upon realizing the potential to streamline field data collection, all Forest Pest staff received in-person training on the application from the GIS department. The flagship project to use Collector was to measure *A. pometaria* defoliation in a regular grid along with several other variables. In previous years, paper maps were prepared, printed and the data entered into a database after the end of the season. For 2015, a geodatabase was designed for the project to include several domains and subtypes that would make field data collection very intuitive, including drop-down lists and hierarchical symbology.
Use of the Collector application saved approximately 15% of staff time which would have devoted to the project in previous years.

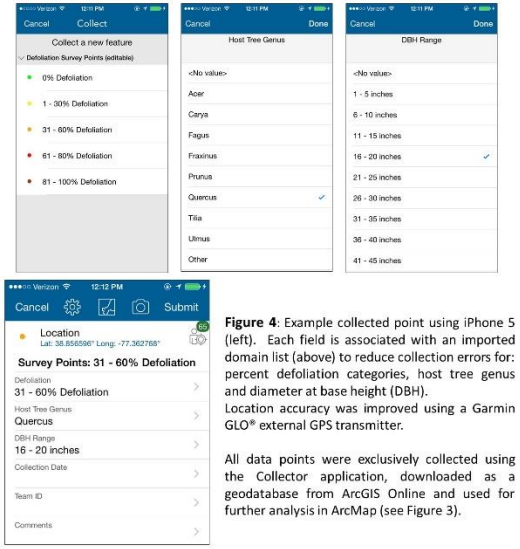


Figure 4: Example collected point using iPhone 5 (left). Each field is associated with an imported domain list (above) to reduce collection errors for: percent defoliation categories, host tree genus and diameter at base height (DBH).
Location accuracy was improved using a Garmin GLO® external GPS transmitter.

All data points were exclusively collected using the Collector application, downloaded as a geodatabase from ArcGIS Online and used for further analysis in ArcMap (see Figure 3).

Applications & Future Work

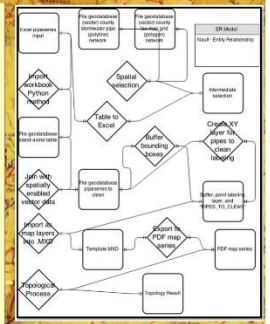
Fairfax County has supplied all of the fall cankerworm population data to cooperators at Virginia Commonwealth University (VCU). These researchers, along with an established Fall Cankerworm Task Force of local managers and stakeholders, aim to update the methodology of *A. pometaria* defoliation prediction and standardize methods for urban and suburban areas. Currently, according to a submitted manuscript by Dr. Jonathan Walter (VCU), a new tentative threshold has been suggested for Fairfax County. In addition, several new variables were suggested to be collected in subsequent seasons, including diameter at breast height (DBH) and tree species.

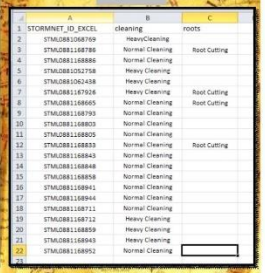
The raster image created from 2015 defoliation survey points will help guide surveys for the Fairfax County 2015-2016 *A. pometaria* monitoring season. Areas identified as having heavy defoliation along with significant hot spot analysis will be prioritized.
Formerly, surveys were conducted based solely on female counts from previous survey seasons as well as observed defoliation from aerial surveys. This heat-map approach will hopefully allow us to better target our surveys to make the process more efficient and accurate.

Automated Excel To Work-crew Pipe-series Mapper

Overview

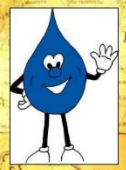
This application automates the creation of PDF map book series using a spreadsheet listing as input. Python with Arcpy were the principle tools used and the results can be seen in the images to the far left and right. An Excel file is specified by the user which then is processed in conjunction with settings taken from a preset MXD-file/feature class map template whose parameters can be modified to suit user tastes. The end result streamlines cartographic efforts to provide maintenance maps to crews and increases productivity by eliminating the creation of individual maps.





Step-by-Step Summary of Application Data Input and Output Process

1) **Convert data to properly formatted .xls and import into a Python coding environment.**
   a) The primary key from the Excel table is used to create a stand-alone file geodatabase table for joining to the countywide stormwater pipe network (Stormnet). It is this "Stormnet ID" which is used by the countywide enterprise management software to identify assets.
   b) The selected pipes (or other features) are imported and saved as a stand-alone table.
2) **Programmatic creation of bounding boxes with Arcpy buffer.**
   a) Includes a minimum distance so that street names are visible to allow for convenient navigation should workers be required for repairs.
   b) Includes at a minimum, sidewalk/gutter to allow allow for easy navigation.
   c) Includes within the bounding boxes the maximum number of pipes by utilizing a dissolve and overlapping boxes to create a single bounding box so that adjacent pipes are in the same PDF.
3) **ArcMap table of contents is loaded and labeled by the template .mxd file.**
   a) The labels for Stormnet ID will be appropriately applied programmatically via 'label expressions'.
   b) The map layers that compose the Table of Contents will be displayed according to the ArcMap automatic layout creation process.
4) **Map series will be created and exported as a PDF to file location via a user supplied file pathway.**



Driving Under the Influence Arrests of 17 and 18 Year Olds and Self-reported Drinking and Driving Behavior of 12th Graders

Between September 2013 and May 2014
By School Pyramid SY2013-2014 and Arrestee Reported Residence

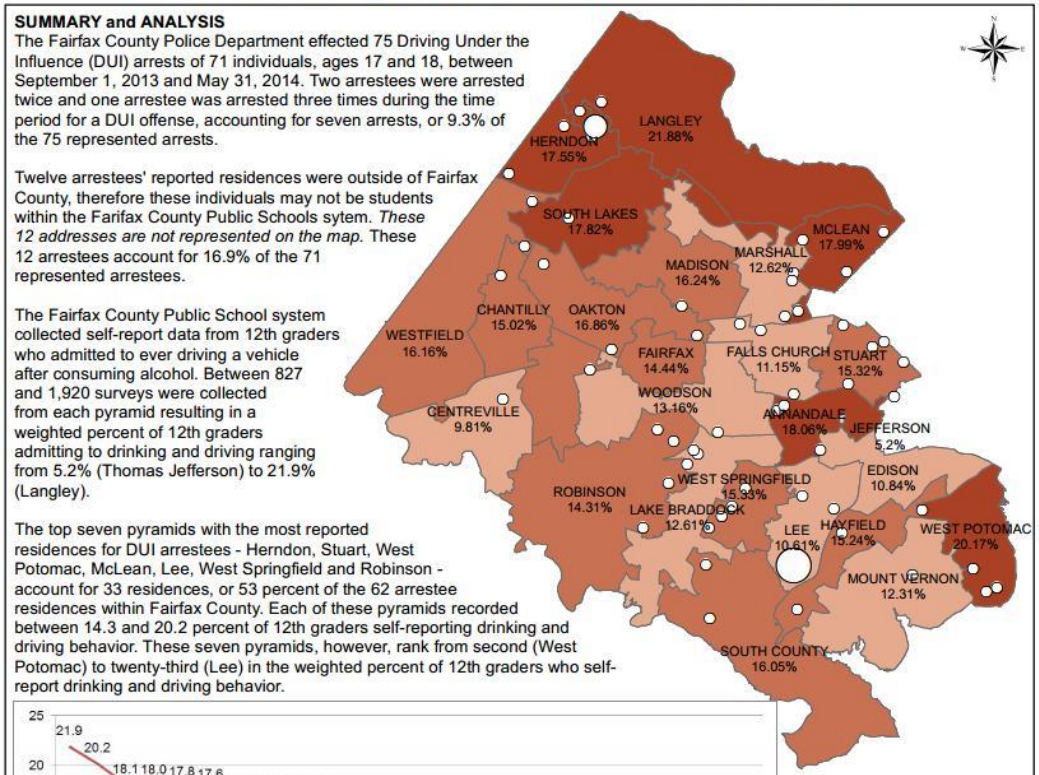
SUMMARY and ANALYSIS

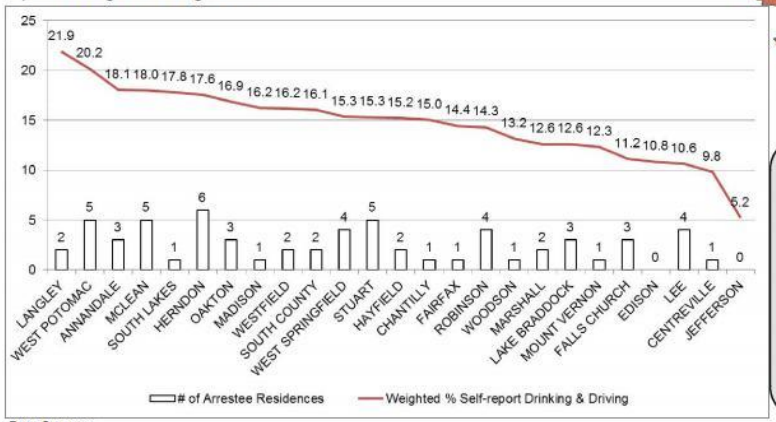
The Fairfax County Police Department effected 75 Driving Under the Influence (DUI) arrests of 71 individuals, ages 17 and 18, between September 1, 2013 and May 31, 2014. Two arrestees were arrested twice and one arrestee was arrested three times during the time period for a DUI offense, accounting for seven arrests, or 9.3% of the 75 represented arrests.

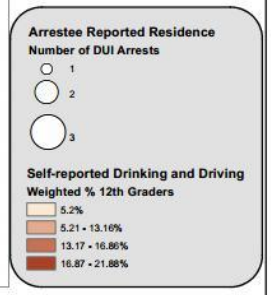
Twelve arrestees' reported residences were outside of Fairfax County, therefore these individuals may not be students within the Farifax County Public Schools sytem. *These 12 addresses are not represented on the map.* These 12 arrestees account for 16.9% of the 71 represented arrestees.

The Fairfax County Public School system collected self-report data from 12th graders who admitted to ever driving a vehicle after consuming alcohol. Between 827 and 1,920 surveys were collected from each pyramid resulting in a weighted percent of 12th graders admitting to drinking and driving ranging from 5.2% (Thomas Jefferson) to 21.9% (Langley).

The top seven pyramids with the most reported residences for DUI arrestees - Herndon, Stuart, West Potomac, McLean, Lee, West Springfield and Robinson - account for 33 residences, or 53 percent of the 62 arrestee residences within Fairfax County. Each of these pyramids recorded between 14.3 and 20.2 percent of 12th graders self-reporting drinking and driving behavior. These seven pyramids, however, rank from second (West Potomac) to twenty-third (Lee) in the weighted percent of 12th graders who self-report drinking and driving behavior.





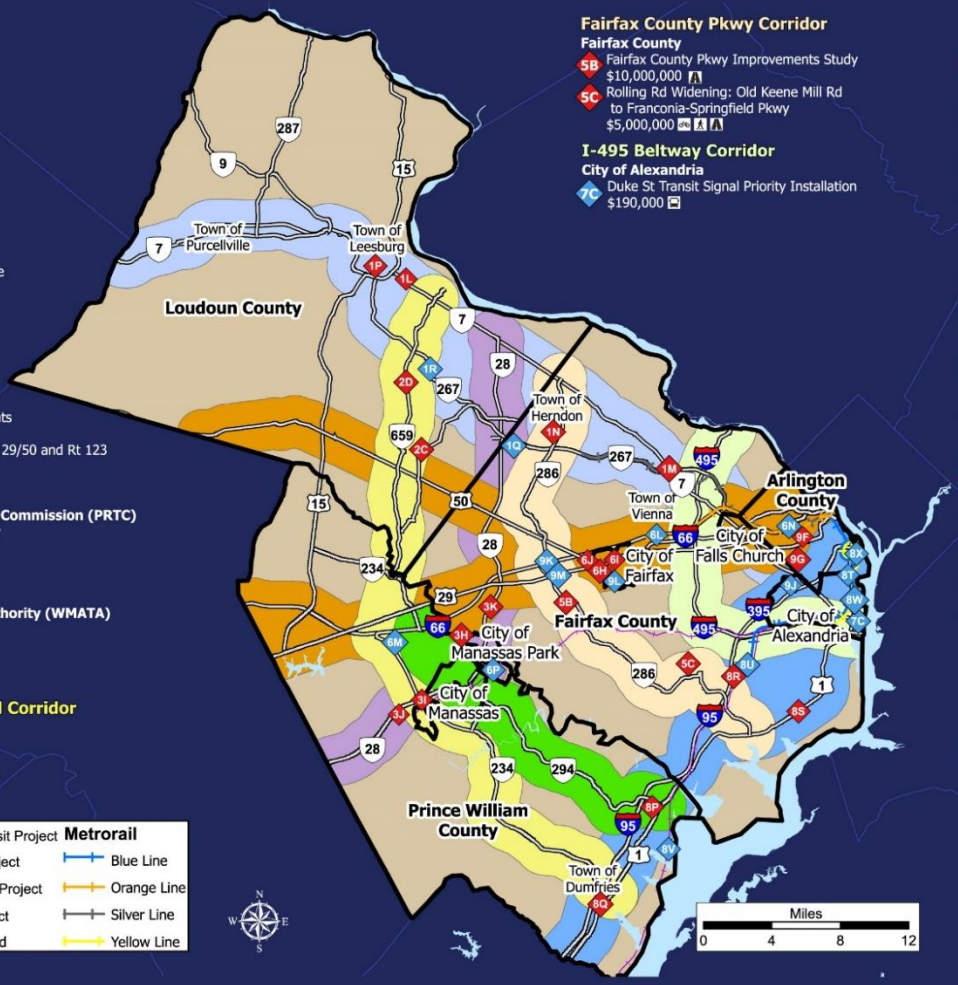


Data Sources:
FCPD: IBR Category=Driving Under the Influence, Arrestee Age=17 or 18, Arrest Date=09/01/13-05/13/14, reported arrestee home address
FCPS: Youth Survey Drinking and Driving Self-reporting by 12th Graders by Pyramid, displayed in Quartiles

0 2.5 5 10 Miles

FCPD/CAU/OSB/JBL
Produced: 03/02/15

NVTA FY2015-16 Program



Dulles/VA 7 Corridor

Fairfax County

- 1M Rt 7 Bridge Widening: Over Dulles Toll Rd — $13,900,000
- 1Q Innovation Center Metrorail Station — $28,000,000

Loudoun County

- 1R Transit Buses (4 New) — $1,860,000

Town of Herndon

- 1N East Elden St Improvements & Widening — $10,400,000

Town of Leesburg

- 1L Rt 7/Battlefield Pkwy Interchange — $13,000,000
- 1P Rt 15 Bypass/Edwards Ferry Rd Interchange — $1,000,000

I-66/US 29/US 50 Corridor

Arlington County

- 6N Ballston Metrorail Station West Entrance — $12,000,000

City of Fairfax

- 6H Kamp Washington Intersection Improvements — $1,000,000
- 6I Northfax - Intersection Improvements at Rt 29/50 and Rt 123 — $10,000,000
- 6J Jermantown/Rt 50 Roadway Improvements — $1,000,000

Potomac & Rappahannock Transportation Commission (PRTC)

- 6M Western Bus Maintenance & Storage Facility — $16,500,000

Virginia Railway Express (VRE)

- 6P Manassas Park Station Parking Expansion — $500,000

Washington Metropolitan Area Transit Authority (WMATA)

- 6L 8-Car Train Traction Power Upgrades — $8,995,000

Loudoun Co Pkwy/TriCo Pkwy/ Belmont Ridge Rd/Gum Springs Rd Corridor

Loudoun County

- 2C Loudoun County Pkwy Development — $31,000,000
- 2D Belmont Ridge Rd Widening — $19,500,000

Highway Project · Mass Transit Project · Metrorail
Bus Project · Bicycle Project · Blue Line
Interchange Project · Pedestrian Project · Orange Line
Transit Project · Road Project · Silver Line
Roadway · VRE Railroad · Yellow Line

Fairfax County Pkwy Corridor

Fairfax County

- 5B Fairfax County Pkwy Improvements Study — $10,000,000
- 5C Rolling Rd Widening: Old Keene Mill Rd to Franconia-Springfield Pkwy — $5,000,000

I-495 Beltway Corridor

City of Alexandria

- 7C Duke St Transit Signal Priority Installation — $190,000

VA 28 Corridor

Fairfax County

- 3K Rt 28 Widening: Prince William County Line to Rt 29 — $5,000,000

Prince William County

- 3J Rt 28 Widening: Rt 234 Bypass to Linton Hall Rd — $16,700,000

City of Manassas

- 3H Rt 28 Congestion Study - Godwin Dr Extn Alternative — $2,500,000
- 3I Rt 28 Widening: Godwin Dr to the Southern City Limits — $3,294,000

I-95/I-395/US 1 Corridor

Fairfax County

- 8R Frontier Dr Extn & Interchange Improvements — $2,000,000
- 8S Rt 1 Widening: Mt Vernon Memorial Hwy to Napper Rd — $1,000,000

Prince William County

- 8P Rt 1 Widening: Featherstone Rd to Marys Way — $49,400,000

City of Alexandria

- 8T Potomac Yard Metrorail Station Development — $1,500,000

Town of Dumfries

- 8Q Rt 1 (Fraley Blvd) Widening: Brady's Hill Rd to Dumfries Rd — $6,900,000

Virginia Railway Express (VRE)

- 8U Franconia-Springfield Platform Improvements — $13,000,000
- 8V Rippon Station Improvements & 2nd Platform — $10,000,000
- 8W Slaters Lane Rail Crossover — $7,000,000
- 8X Crystal City Platform Extension Study — $400,000

Other/Multiple Corridors

Arlington County

- 9F Glebe Rd Corridor Intelligent Transportation System Improvements — $2,000,000
- 9G Columbia Pike Multimodal Street Improvements — $10,000,000

Fairfax County

- 9K Connector Buses (12 New) — $6,000,000
- 9M West Ox Bus Garage Expansion — $20,000,000

City of Alexandria

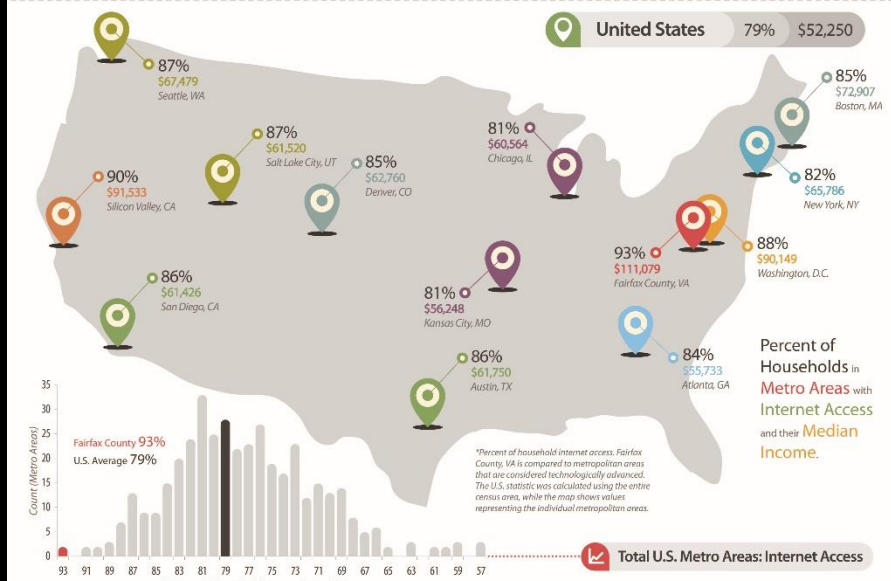
- 9J West End Transitway Study — $2,400,000

City of Fairfax

- 9L Cue 35-Foot Buses (6 New) — $3,000,000

Fairfax County vs. United States

Household Internet Accessibility and Median Income



Total U.S. Metro Areas: Internet Access

D.C. Metro

95% $116,848 Loudoun County, VA

93% $111,079 Fairfax County, VA

92% $95,268 Prince William County, VA

91% $102,501 Arlington County, VA

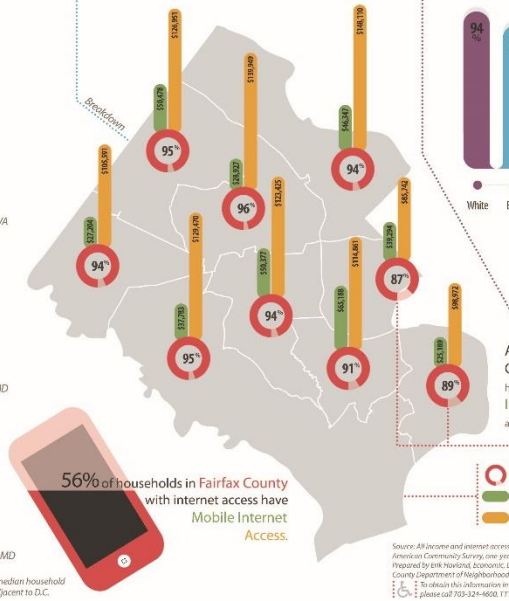
91% $98,326 Montgomery County, MD

87% $88,797 Charles County, MD

82% $72,052 Prince George's County, MD

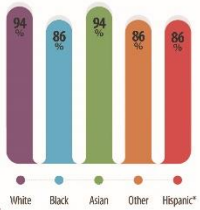
*Percent of household internet access and total median household income for each county in the D.C. Metro Area adjacent to D.C.

Fairfax County: Internet Access and Median Income



56% of households in Fairfax County with internet access have Mobile Internet Access.

Access by Race: Fairfax County



*Hispanic can be of any race.
**Percent of household internet access between races in Fairfax County, VA. Other consists of some other race and two or more races.

Source: All income and internet access data provided by U.S. Bureau of the Census, 2013 American Community Survey, one-year summaries and Public Use Micro Sample (PUMS). Prepared by Erik Hovland, Economic, Demographic, and Statistical Research, Fairfax County Department of Neighborhood and Community Services, March 2015.

To obtain this information in an alternative format please call 703-324-4600, TTY 711.

Giles Run Road

Section A-A

Section B-B

Landscaping Improvement Plan

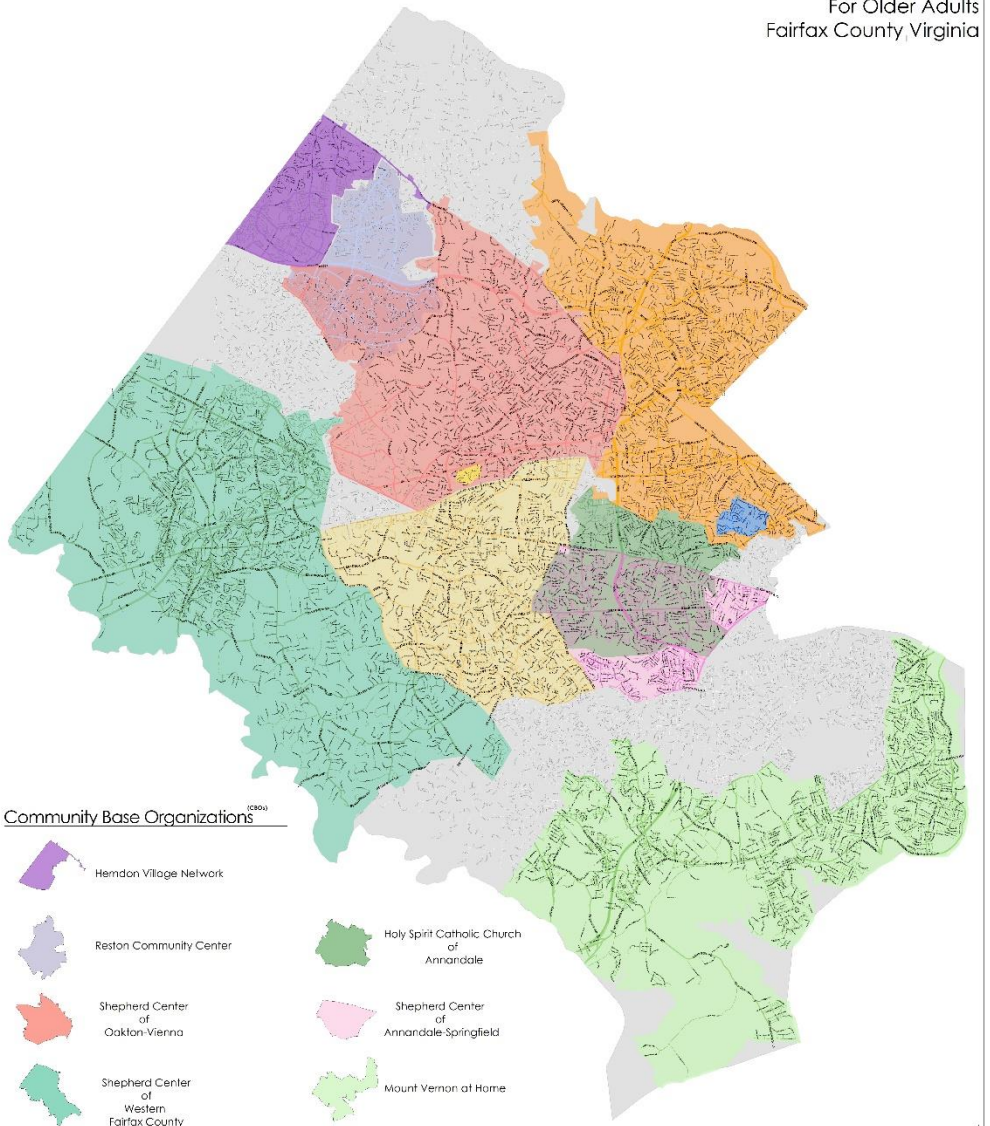
Deciduous Trees | Flowering Trees | Evergreen Trees | Shrubs

FCDOT Serving Fairfax County Since 1977

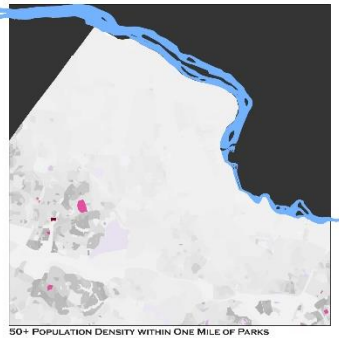
October, 2015

2015

CBOs Providing Volunteer Transportation Services For Older Adults Fairfax County Virginia

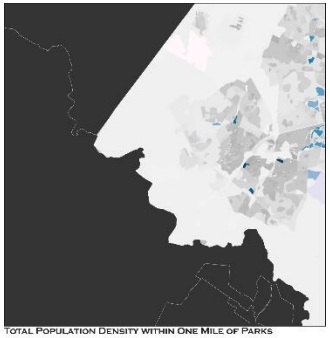


50+ Population Density



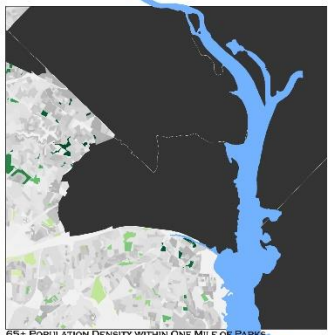
50+ Population Density within One Mile of Parks

65+ Population Density

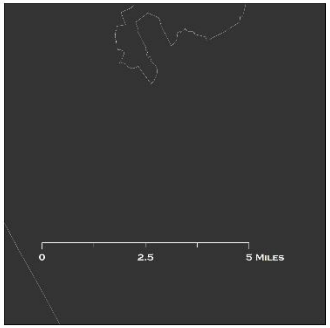


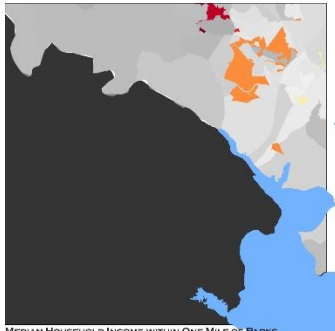
Total Population Density within One Mile of Parks

Total Population Density

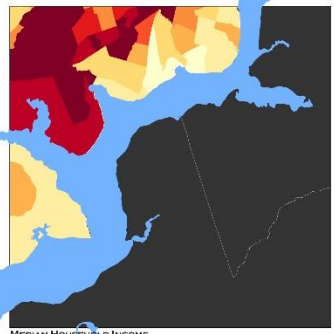


65+ Population Density within One Mile of Parks



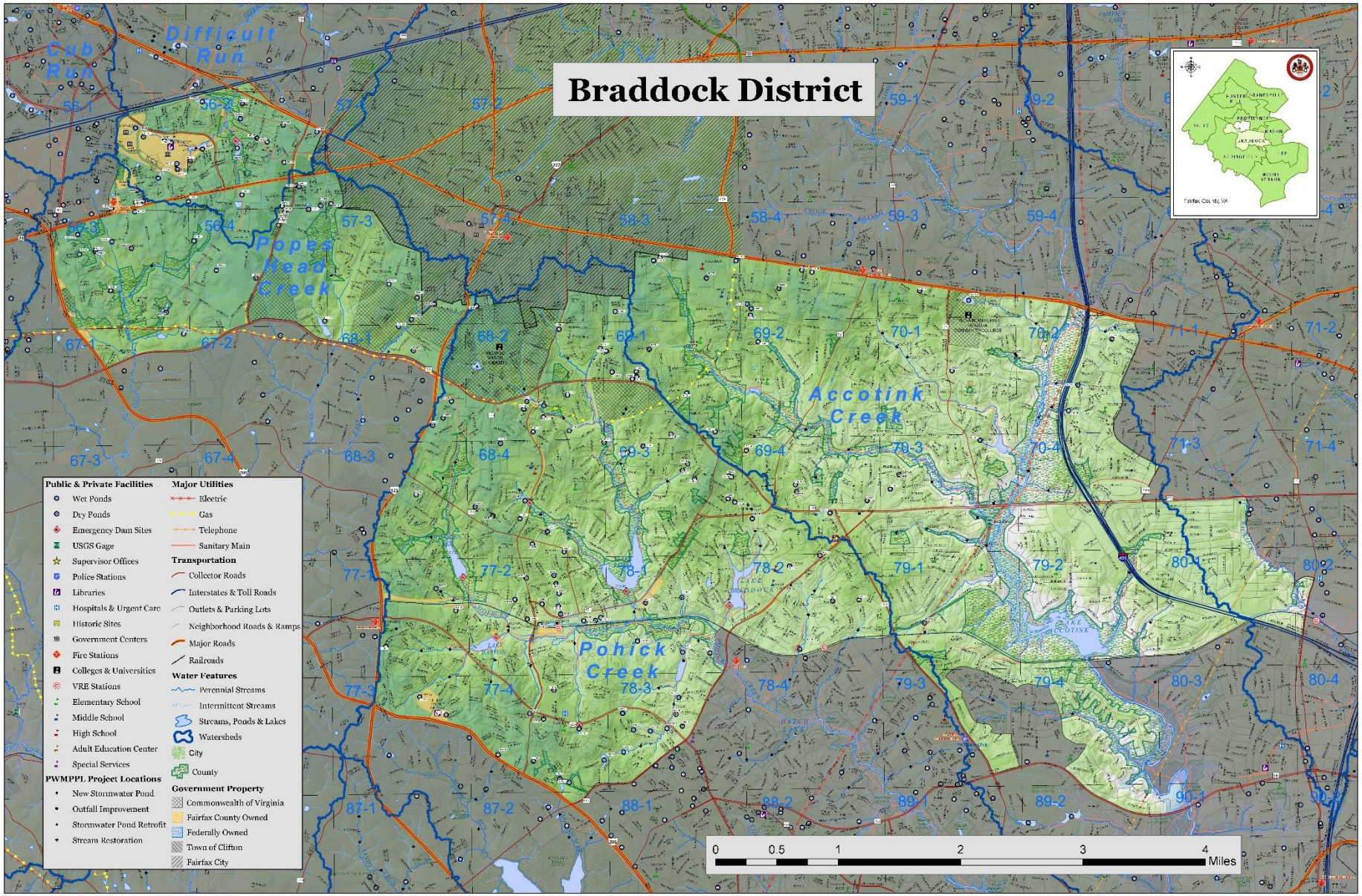


Median Household Income within One Mile of Parks



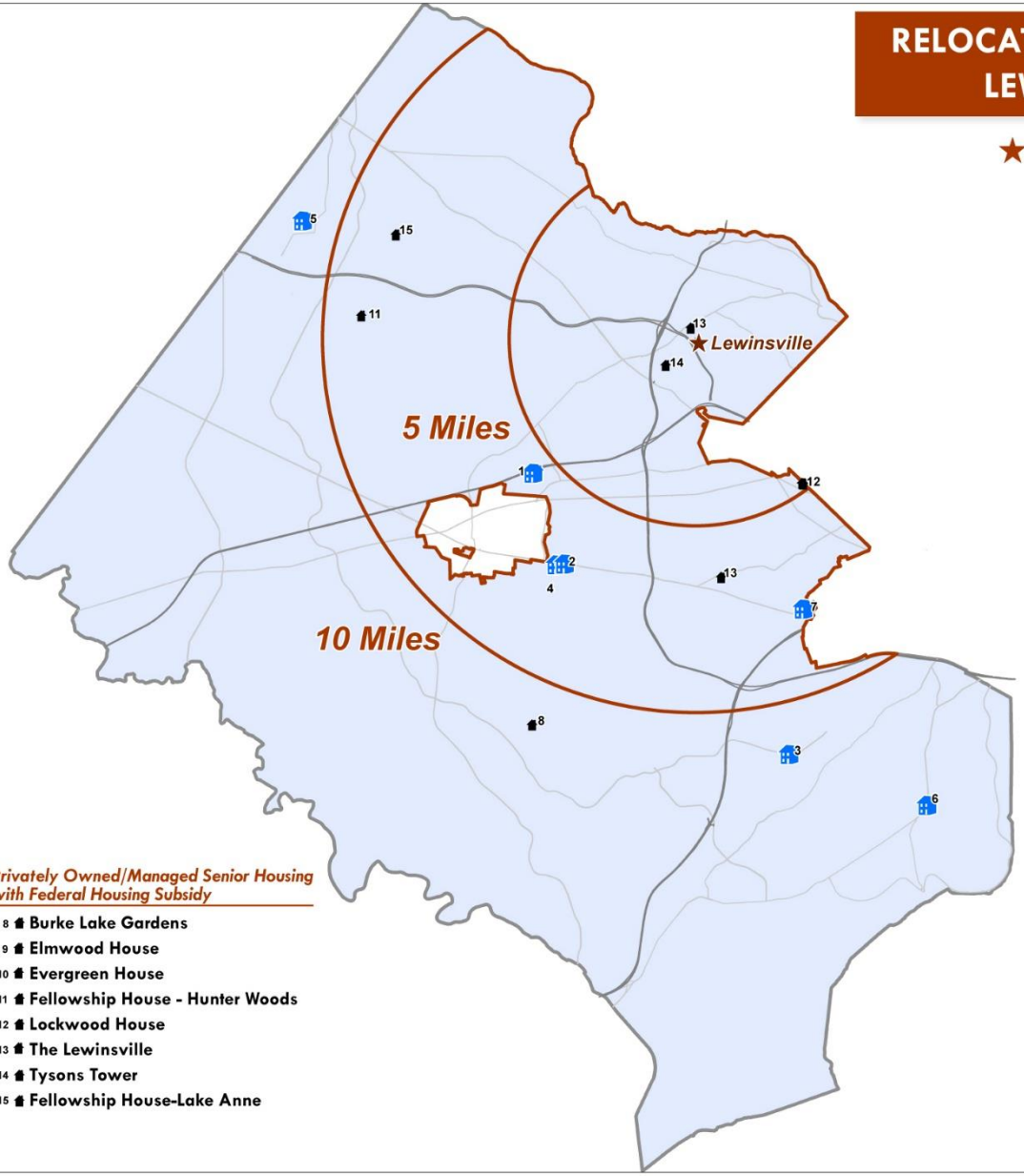
Median Household Income

Visualizing Demographic Data for Site Analysis


Braddock District
Difficult Run
Cub Run
Popes Head Creek
Accotink Creek
Pohick Creek
Public & Private Facilities
Wet Ponds
Dry Ponds
Emergency Dam Sites
USGS Gage
Supervisor Offices
Police Stations
Libraries
Hospitals & Urgent Care
Historic Sites
Government Centers
Fire Stations
Colleges & Universities
VRE Stations
Elementary School
Middle School
High School
Adult Education Center
Special Services
PWMPPL Project Locations
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Stream Restoration
Major Utilities
Electric
Gas
Telephone
Sanitary Main
Transportation
Collector Roads
Interstates & Toll Roads
Outlets & Parking Lots
Neighborhood Roads & Ramps
Major Roads
Railroads
Water Features
Perennial Streams
Intermittent Streams
Streams, Ponds & Lakes
Watersheds
City
County
Government Property
Commonwealth of Virginia
Fairfax County Owned
Federally Owned
Town of Clifton
Fairfax City
0 0.5 1 2 3 4 Miles

RELOCATION OPTIONS FOR RESIDENTS OF LEWINSVILLE SENIOR HOUSING

★ *FCRHA Rental Program - Lewinsville Senior Housing*



Privately Owned/Managed Senior Housing with Federal Housing Subsidy

8 Burke Lake Gardens
9 Elmwood House
10 Evergreen House
11 Fellowship House - Hunter Woods
12 Lockwood House
13 The Lewinsville
14 Tysons Tower
15 Fellowship House-Lake Anne

FCRHA Rental Program - Senior Housing

1 Saintsbury Plaza

5 Herndon Harbor House

2 Olley Glen

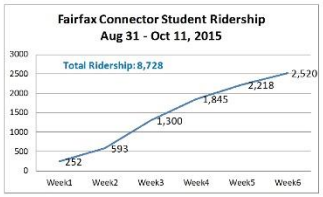
6 Gum Springs Glen

3 Morris Glen

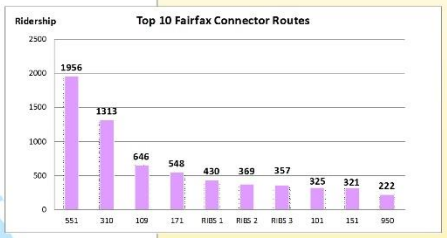
7 Lincolnian Residences

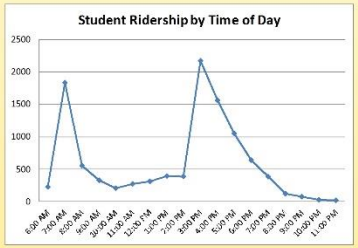
4 Little River Glen

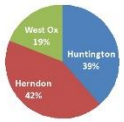
FAIRFAX CONNECTOR STUDENT RIDERSHIP (08/31-10/11 2015)



COUNTY OF FAIRFAX
COMMONWEALTH OF VIRGINIA
2015







Student Ridership by Division

Student Ridership with Free Bus Fare

Student Ridership

- 1 - 50
- 51 - 200
- 201 - 1509
- High School Outreach Events

SOUTH LAKES
MADISON
CHANTILLY
EDISON
MOUNT VERNON

0 2.5 5 Miles

From August 2015, Fairfax County Department of Transportation started the Student Free Fare Program, which provides free trips on Fairfax Conenctor buses to Fairfax County high school and middle school students. The goal of this program is to encourage increased student and youth riderhsp on public transit services in Fairfax County.

Six school outreach events were conducted in August and September 2015 to help promote this program, which include:
- South Lakes High School
- Chantilly High School
- Madison High School
- Mt Vernon High School
- Edison High School
- Herndon High School

From August 31 to October 11, 2015, the total student ridership has risen up to 8,728, and the top 10 bus routes with higher student ridership are: 551, 310, 109, 171, RIBS1/2/3, 101, 151, and 950, which primarly serve Herndon and Reston, Mt. Vernon areas.

WPFG Orienteering Maps of George Mason University

Event Coordinator, Course Setter, Map Editor, Final Map, Printing: Keg Good, Fairfax County Fire and Rescue.
Primary Field Checker, Map Drafter, OCAD: Tom Strat
Base Map Production: Greg Lennon
Course Consultant: Jon Torrance
Sprint Vetting Team: from Quantico Orienteering Club: Mark Becker, Ted Good, Gary Harris, Paul Hession, Karla Hulett, Dave Pruden, Sam Listwak, Gwen Neuhaus, Dave Onkst, Heidi Onkst, Sid Sachs, Ken Walker, Jr.

Background

During summer 2015, the World Police and Fire Games (WPFG) was held in Fairfax, VA. and neighboring jurisdictions. Orienteering was one of over 60 sports.

Orienteering is a cross country running event where competitors must navigate unfamiliar terrain using only a map provided by the organizers and a compass. Check points, called controls, must be "punched" by the competitor in sequential order. Starts are staggered so competitors cannot follow each other. The event requires mental acuity while under physical duress. For a world championship event, the map and courses must be of the highest standards and meet international rules and specifications.

- International Specifications for Sprint Orienteering Maps
- Competition Rules for IOF Foot Orienteering Events
- WPFG Rules - Orienteering

The Courses

The profile for the Sprint Orienteering Competition at George Mason University (GMU) is high speed in order to test the athletes' ability to read and translate the map in complex environments, and to plan and carry out route choices running at high speed. The course must be planned so that the element of speed is maintained throughout the race. The course may require climbing but steepness forcing the competitors to walk should be avoided. Finding the controls should not be the challenge; rather the ability to choose and complete the best route to them. The course should be set to require the athletes' full concentration throughout the race.

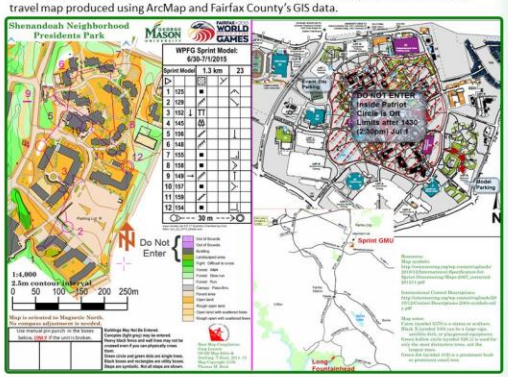
Keg Good, the event coordinator and course setter worked iteratively with the sprint vetting team over 6 months to review control placement, refine the map, test a variety of route choices, and determine the likely wining times for world championship athletes.

The Map

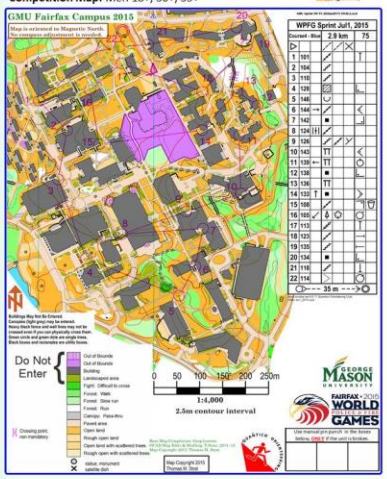
The initial buildings and parking lot outlines were added to contours developed from Lidar data processed by Greg Lennon of Red Arrow Maps. Together these formed the base map used for field checking and adding all the details. Tom Strat, a volunteer mapper, walked over the terrain field checking and adding details such as vegetation, and other objects and shifting features as needed to clarify. Field check notes were converted into digital form using OCAD, an orienteering cartography software. The OCAD map was then loaded into CONDES, course planning software, for all over-printing (course drawing, control descriptions, course leg lengths, graphic objects, layout, scaling, exporting, and printing).

The map was carefully reviewed for accuracy and clearness for anywhere that a competitor was likely to traverse. Major and minor tweaks were coordinated and evaluated by the course setter and then sent back to the mapper via email. This kept only two people involved with all map changes. Meanwhile George Mason University was still building buildings, driveways, parking lots, athletic areas, adding landscaping and planting trees. The latest Pictometry data along with the dormitory floor plans were a big help in visualizing exterior building nooks. Just before the WPFG event, the course setter walked over all parts of the map, rechecking for last minute changes. The final change affecting courses occurred less than 24 hours before the starting time when road repaving necessitated an additional out-of-bounds area.

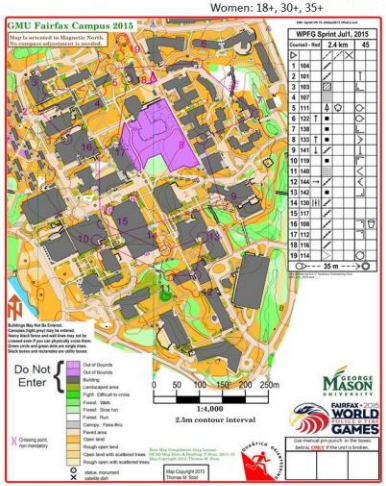
Model Map: This is a practice course that lets competitors check out the quality of the map and course and how the set up will be arranged. Athletes may spend as much time as they wish in the model area. Also included on the same sheet is a campus map produced by GMU and a travel map produced using ArcMap and Fairfax County's GIS data.



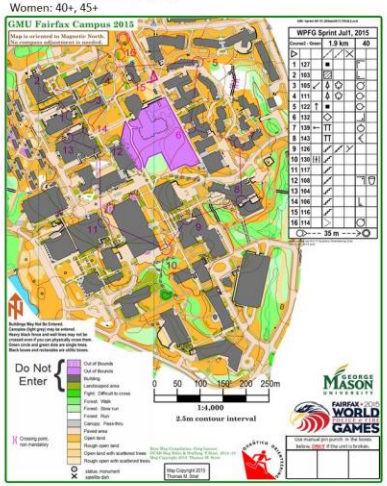
Competition Map: Men 18+, 30+, 35+



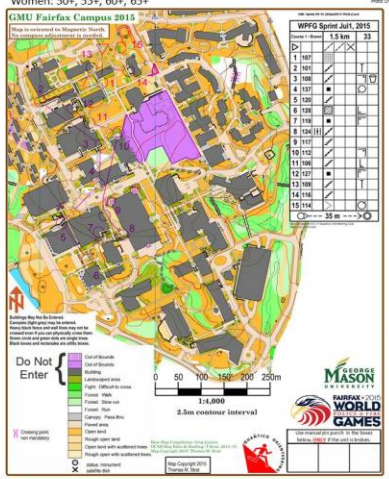
Competition Map: Men 40+, 45+, Women: 18+, 30+, 35+



Competition Map: Men 50+, 55+, Women: 40+, 45+



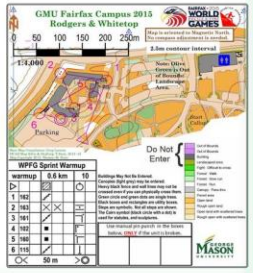
Competition Map: Men 60+, 65+, Women: 50+, 55+, 60+, 65+



Top & top left: Matthias Blaschke punching the spectator and final control.

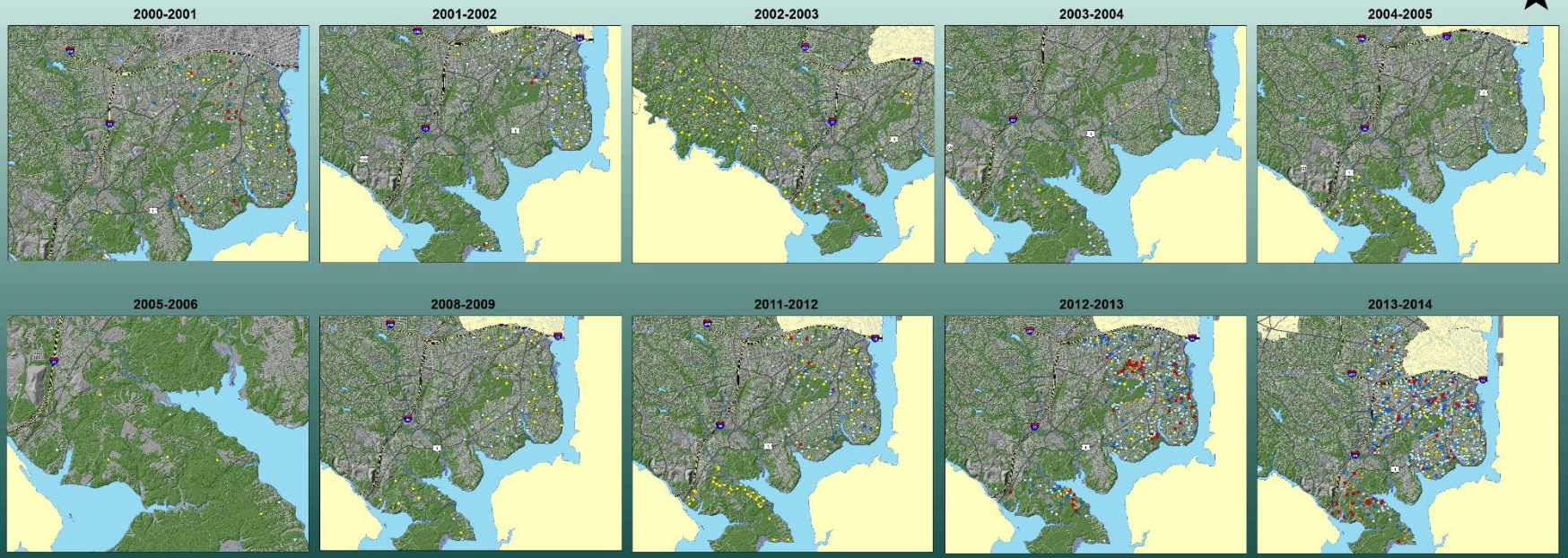
Left: Competitors punching one of the spectator controls

Warmup Map: Used by athletes to warmup or for a last minute look at similar terrain.

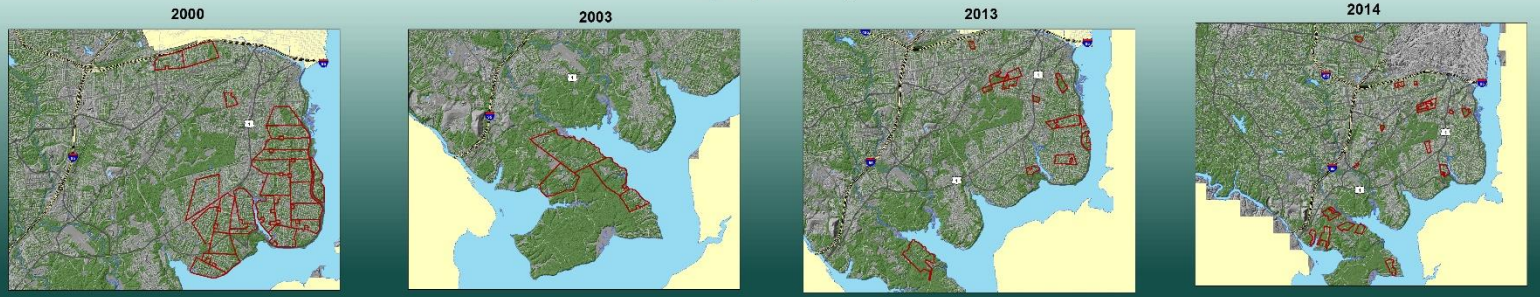


Fall Cankerworm in Fairfax County

Survey History



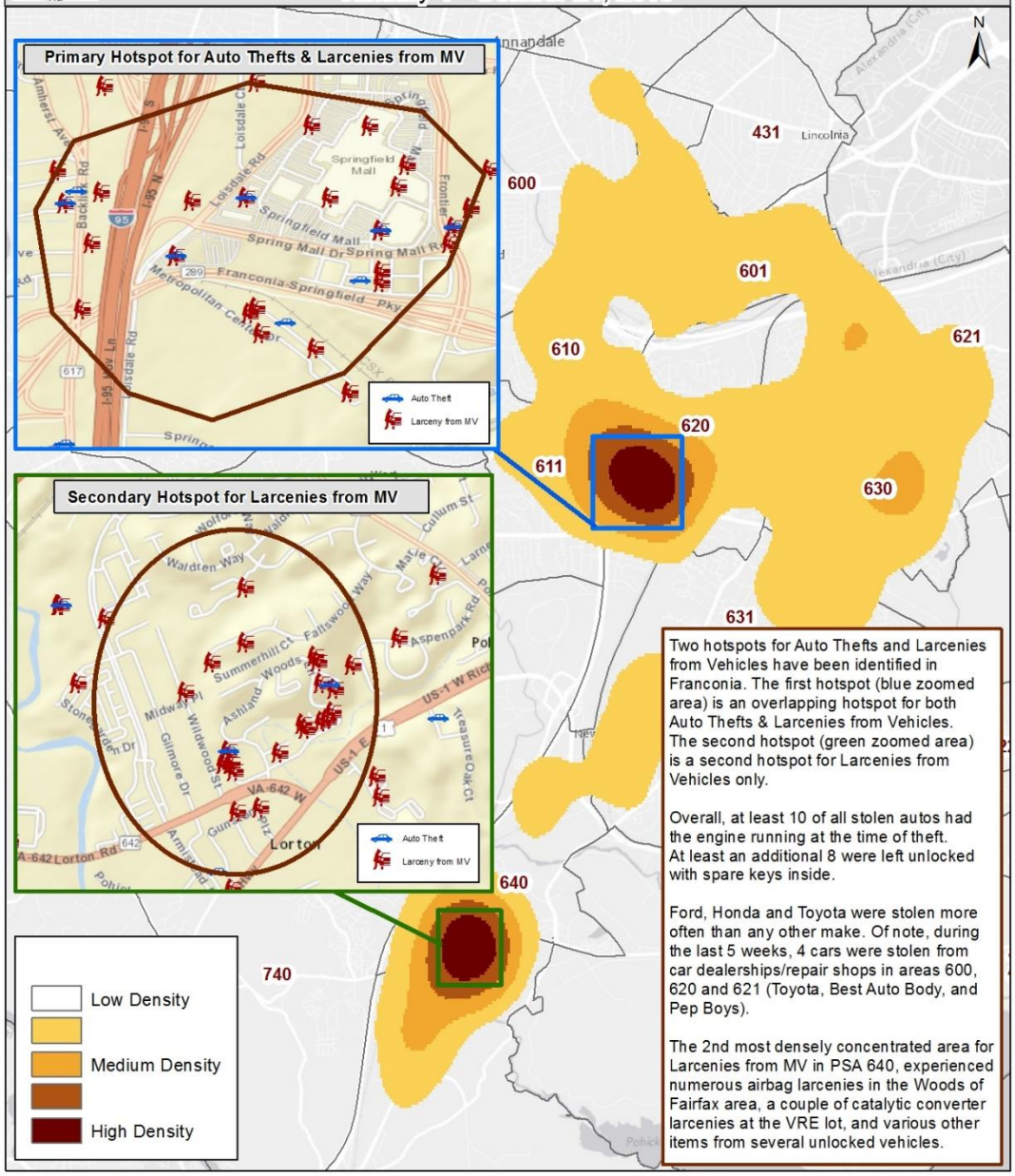
Spray History



SPRAY AREAS DETERMINED BY ANNUAL CANKERWORM TRAP COUNTS

Source: Fairfax County Urban Forest Management & GIS Office

FRANCONIA DISTRICT
AUTO THEFTS & LARCENIES FROM VEHICLE
January 1 - October 21, 2015



Two hotspots for Auto Thefts and Larcenies from Vehicles have been identified in Franconia. The first hotspot (blue zoomed area) is an overlapping hotspot for both Auto Thefts & Larcenies from Vehicles. The second hotspot (green zoomed area) is a second hotspot for Larcenies from Vehicles only.

Overall, at least 10 of all stolen autos had the engine running at the time of theft. At least an additional 8 were left unlocked with spare keys inside.

Ford, Honda and Toyota were stolen more often than any other make. Of note, during the last 5 weeks, 4 cars were stolen from car dealerships/repair shops in areas 600, 620 and 621 (Toyota, Best Auto Body, and Pep Boys).

The 2nd most densely concentrated area for Larcenies from MV in PSA 640, experienced numerous airbag larcenies in the Woods of Fairfax area, a couple of catalytic converter larcenies at the VRE lot, and various other items from several unlocked vehicles.

FCPD/CAU/FRA/SEW
Created: 10/23/15

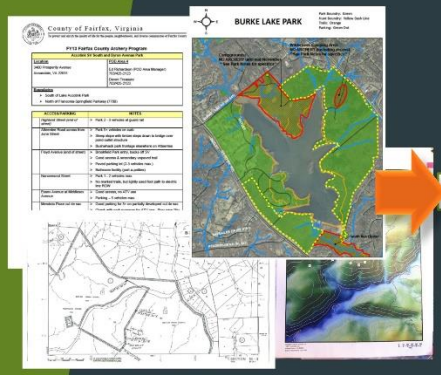
0 0.5 1 2 3 4 Miles

ESRI World Map

Fairfax County Deer Management – A Web Mapping Application

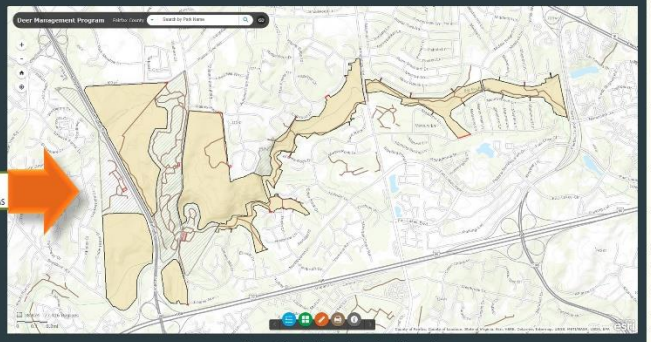
Fairfax County Park Authority & Fairfax County Police Department

From paper forms and maps, to a sleek and easy-to-use application



Examples of old documents provided to the Hunters

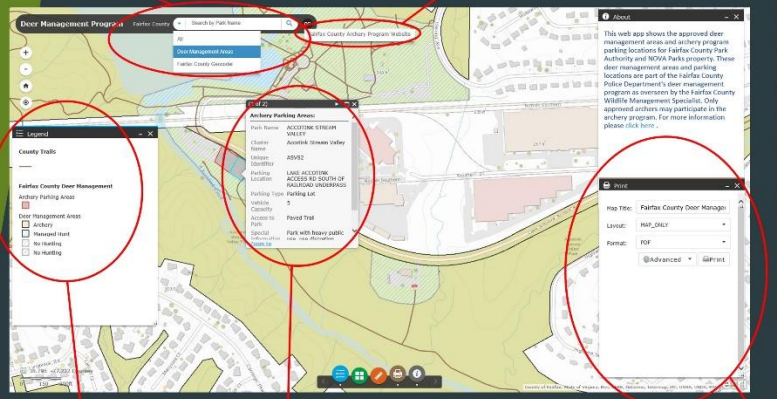
Newly Created GIS Data



New Web Mapping Application

Search by Park Name

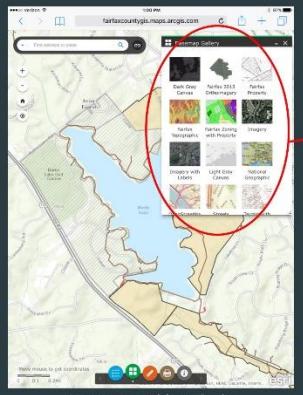
Link to Program Website



Legend

Detailed Attributes for each Layer

Create a PDF to Print



View on a tablet (iPad)

Change the basemaps

View on a phone (iPhone)

Use device GPS to verify boundaries

Public Feedback

"The maps looks awesome and is very helpful. Nice work to everyone involved!!!!"

"You have done a great job on the maps."

Scan to View Web App

Visit the Fairfax County Geoportal
http://www.fairfaxcounty.gov/maps/geoportal.htm

By Park Authority Staff (J. Roberson, K. Sinclair & K. Auer) and Police Dept. Staff (K. Edwards & E. Powell)

Background

The Fairfax County Deer Management Program is implemented each year to manage the abundant local white-tailed deer population (*Odocoileus virginianus*). The primary objective of the Fairfax County Deer Management Program is deer population control on public parklands. Management actions reflect a variety of interests: protecting human health and safety, reducing environmental damage, conserving biodiversity and maintaining healthy deer herds. The program is implemented by the Fairfax County Police Department (FCPD) in collaboration with the Fairfax County Park Authority (FCPA) and Northern Virginia Regional Park Authority (NVRPA).

Archery is the primary deer management tool used in Fairfax County to help manage high density deer herds. Archery has been shown to be a safe and effective deer management tool to control deer populations on public lands in Fairfax County and other high-density jurisdictions. Qualified bowhunters with superior skill, ethics, and experience are able to efficiently and discreetly hunt deer in areas where firearm use is restricted or prohibited, or not an effective or sustainable deer management tool.

Problem

As the archery program has expanded over time, it has become increasing difficult to effectively communicate the locations of approved hunting and parking areas on FCPA and NVRPA property. FCPD and FCPA staff received many requests in regards to very specific locations:

"Is the gravel parking lot off of Poplar Tree road an approved parking location?"

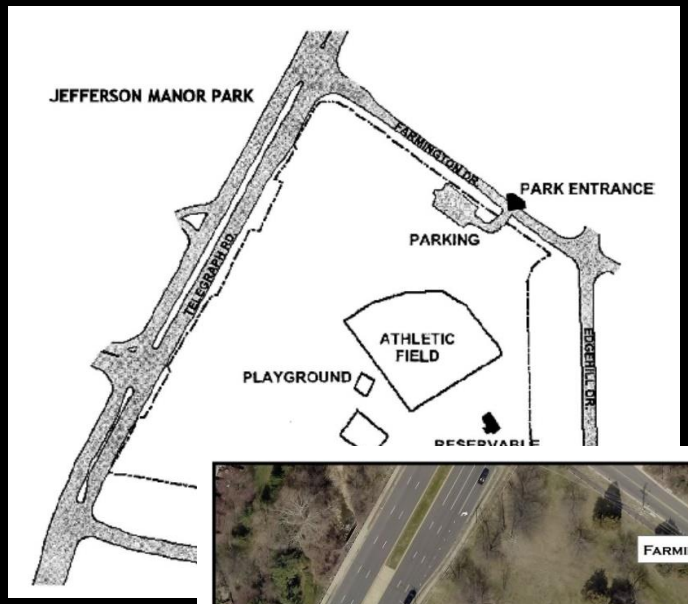
"Is the Northeastern section of Rocky Run Stream Valley near Stringfellow Road an approved hunting location?"

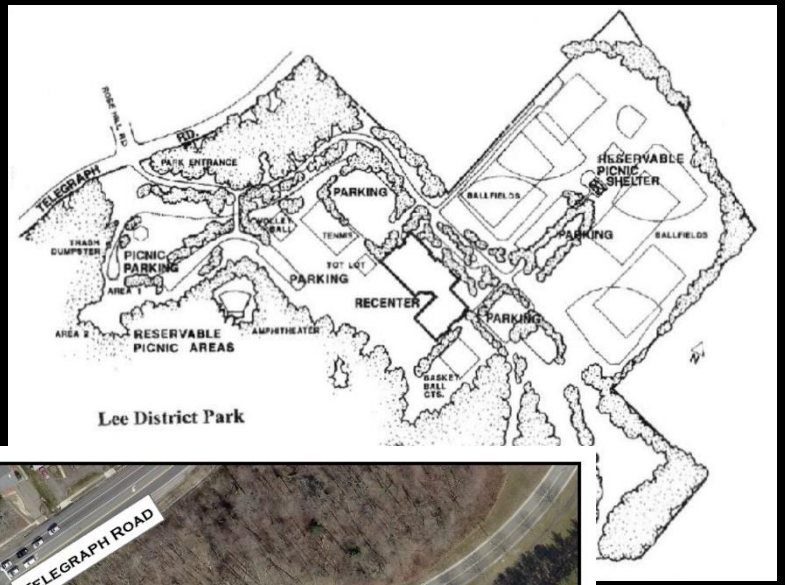
"Can we park at old man Johnson's driveway and then enter the park?"

Solution

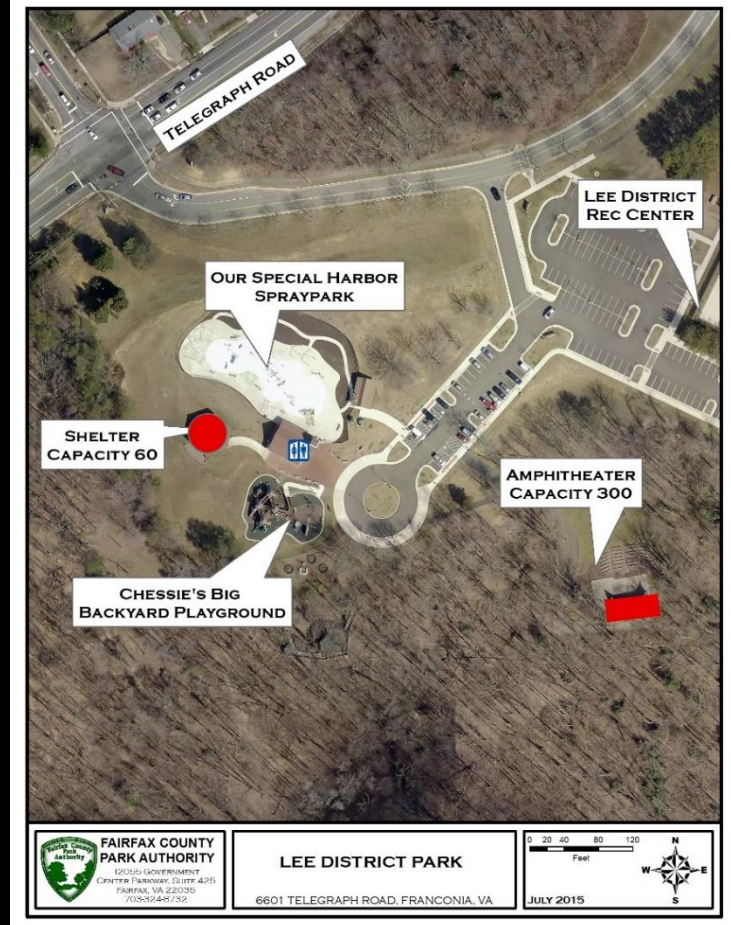
In order to reduce the staff time required to answer these questions, we determined a new web mapping application was the best approach to effectively communicate archery information to the public. We created GIS data where none had previously existing based off of the old paper forms and maps. The approved hunting areas and the approved parking areas data are managed through the county's enterprise geodatabase and served up using ArcGIS Server. When FCPD and FCPA staff need to make an adjustment to an area, they can easily update the data and the change is immediately reflected in the public facing web application. The web application works on desktops and mobile devices, allowing for reference while in the field, which is a great feature for the hunters.

Deer Management Web App


JEFFERSON MANOR PARK
FARMINGTON DR.
PARK ENTRANCE
PARKING
TELEGRAPH RD
ATHLETIC FIELD
PLAYGROUND
EDGEHILL DR.


TELEGRAPH RD
PARK ENTRANCE
PARKING
RESERVABLE PICNIC SHELTER
BALLFIELDS
VOLLEY BALL
TENNIS
TRASH DUMPSTER
PICNIC PARKING
TOT LOT
AREA 1
AREA 2
RESERVABLE PICNIC AREAS
AMPHITHEATER
RECENTER
BASKET BALL CTS.
Lee District Park


FARMINGTON DRIVE
PARKING
TELEGRAPH ROAD
PLAYGROUND
SHELTER CAPACITY 50
FAIRFAX COUNTY PARK AUTHORITY
12055 GOVERNMENT CENTER PARKWAY, SUITE 425
FAIRFAX, VA 22035
703-324-8732
JEFFERSON MANOR
2909 FARMINGTON DRIVE, ALEXANDRIA VA
0 50 100
Feet
N
W
E
S
SEPTEMBER 2015


TELEGRAPH ROAD
LEE DISTRICT REC CENTER
OUR SPECIAL HARBOR SPRAYPARK
SHELTER CAPACITY 60
AMPHITHEATER CAPACITY 300
CHESSIE'S BIG BACKYARD PLAYGROUND
FAIRFAX COUNTY PARK AUTHORITY
12055 GOVERNMENT CENTER PARKWAY, SUITE 425
FAIRFAX, VA 22035
703-324-8732
LEE DISTRICT PARK
6601 TELEGRAPH ROAD, FRANCONIA, VA
0 20 40 80 120
Feet
N
W
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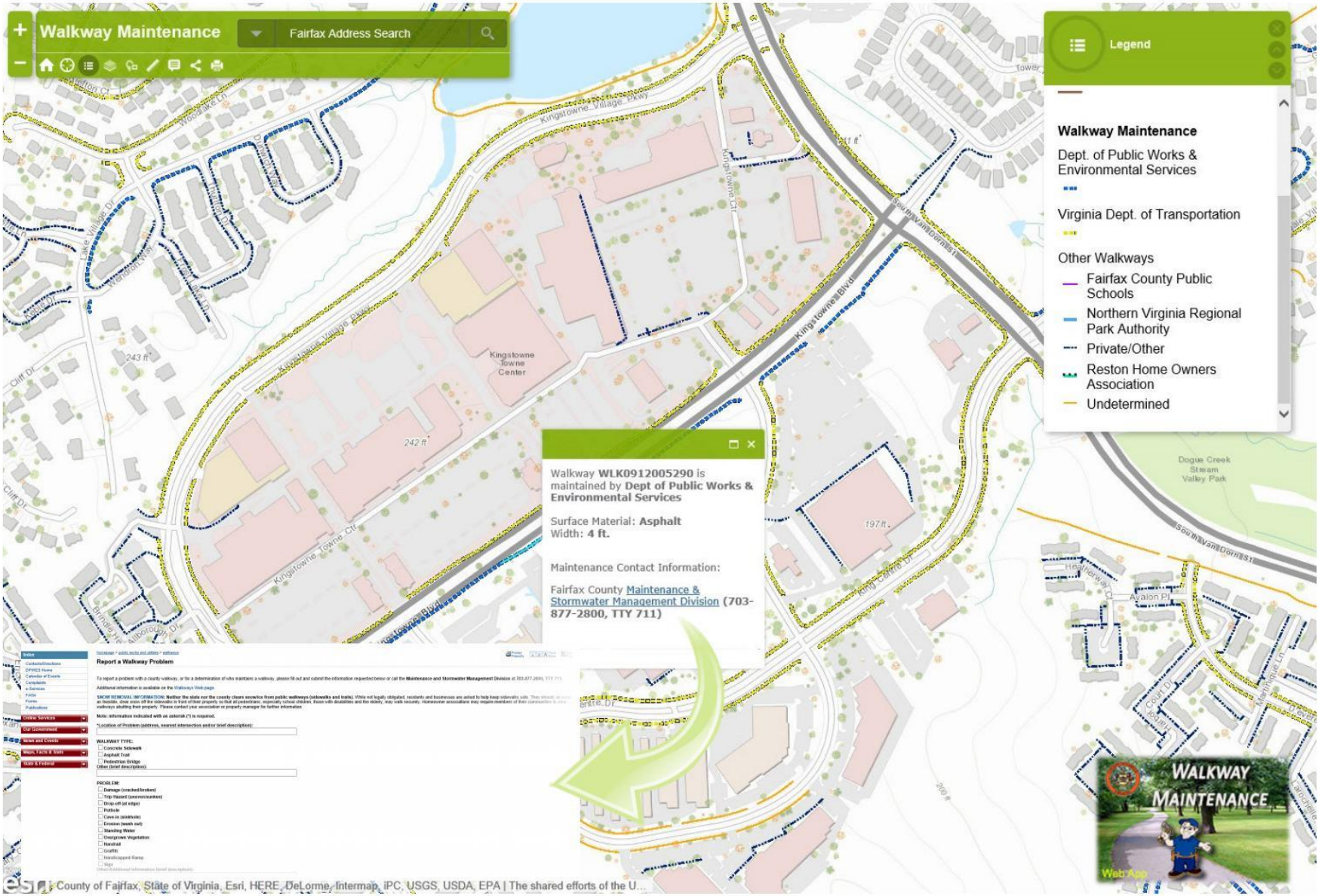
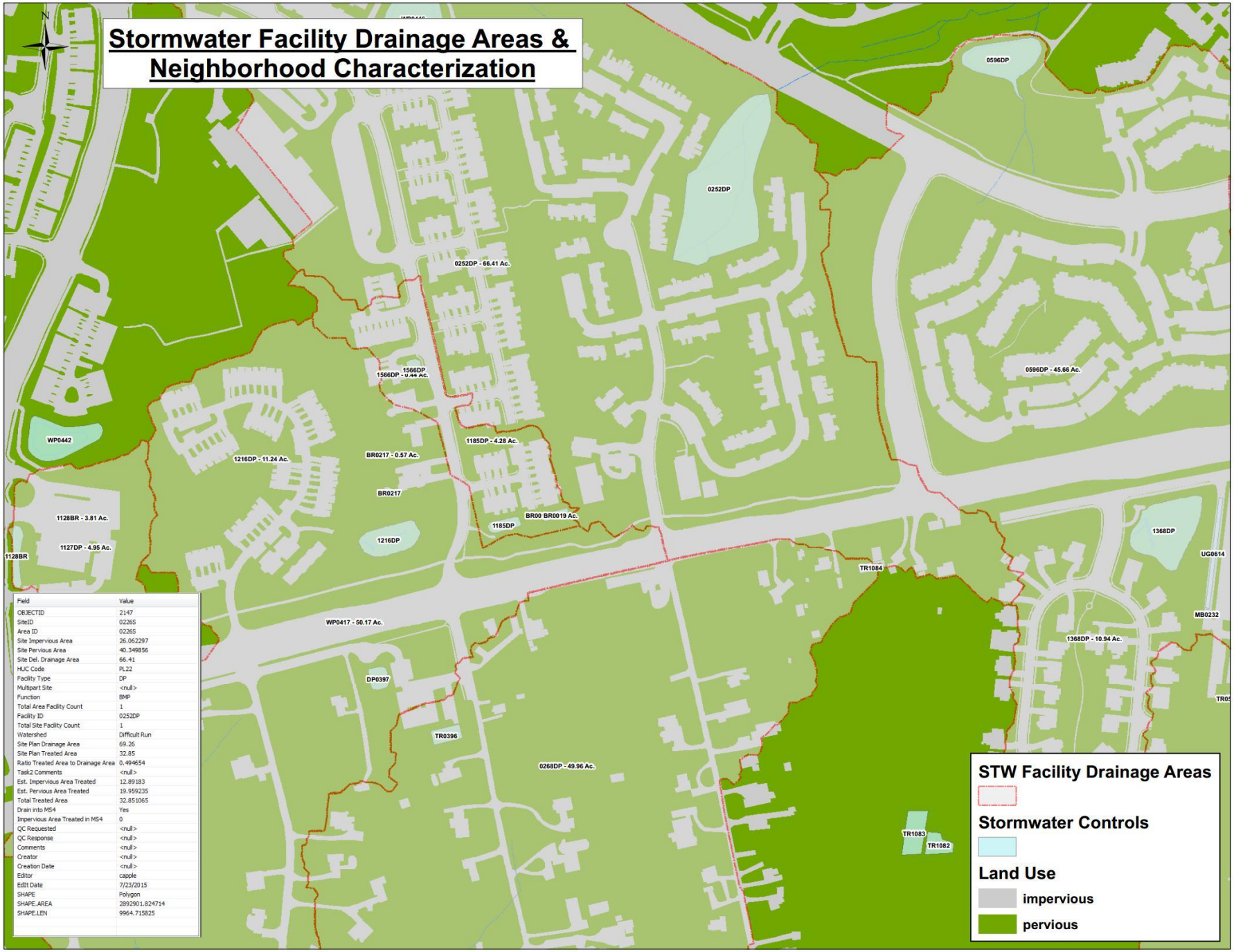
S
JULY 2015



[Walkway Maintenance Web Application]

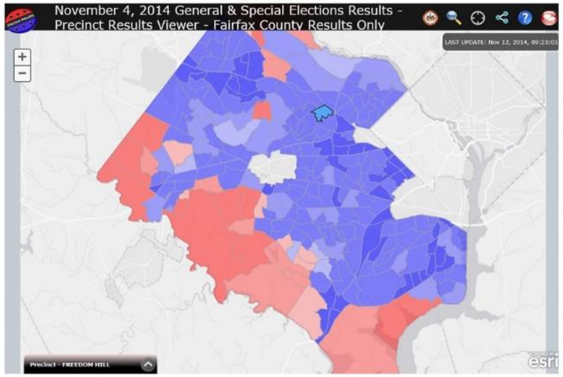


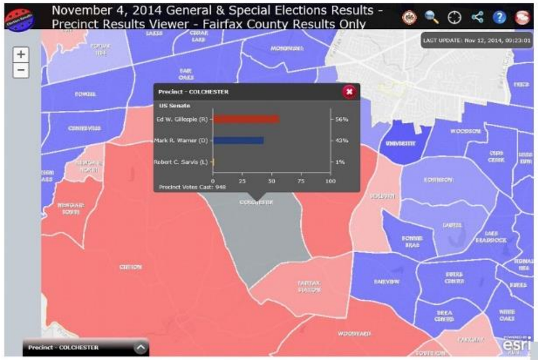
Field	Value
OBJECTID	2147
SiteID	02265
Area ID	02265
Site Impervious Area	26.062297
Site Pervious Area	40.349856
Site Del. Drainage Area	66.41
HUC Code	PL22
Facility Type	DP
Multipart Site	<null>
Function	BMP
Total Area Facility Count	1
Facility ID	0252DP
Total Site Facility Count	1
Watershed	Difficult Run
Site Plan Drainage Area	69.26
Site Plan Treated Area	32.85
Ratio Treated Area to Drainage Area	0.494654
Task2 Comments	<null>
Est. Impervious Area Treated	12.89183
Est. Pervious Area Treated	19.959235
Total Treated Area	32.851065
Drain into MS4	Yes
Impervious Area Treated in MS4	0
QC Requested	<null>
QC Response	<null>
Comments	<null>
Creator	<null>
Creation Date	<null>
Editor	capple
Edit Date	7/23/2015
SHAPE	Polygon
SHAPE.AREA	2892901.824714
SHAPE.LEN	9964.715825

Election Results Viewer

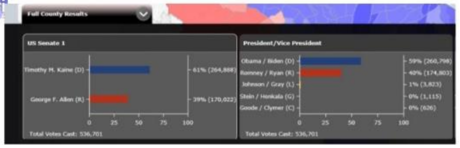
The Election Results Viewer is a configuration of ArcGIS and a JavaScript application that provides election results information to the general public and other interested parties in their community from a smartphone, tablet and desktop computer. The Election Results Map was piloted in the November 4, 2014 General & Special Elections and was a huge success. In addition, this map allowed for the capture of historical election results for which there are five elections with this mapping solution available on the web to date. As a result of this innovative use of web technology, the Elections Results Map is now required for all future elections.

The Election Night Results Map link for the November 2014 election is:
http://www.fairfaxcounty.gov/gis/ElectionsResults2014





This multi-functional map displays leading candidates by precinct, based on unofficial election results obtained from a spreadsheet that Elections' staff updates throughout election night. Being able to visualize these results on a map as they are coming in on Election Night provides for timely Elections Results information to the public. The map shows which precincts have more competitive versus less competitive races by the intensity of color on the map; and vote counts can be viewed at the precinct level and for county-wide races. As a result of this innovative use of web technology, the Elections Results Map is now required for all future elections.

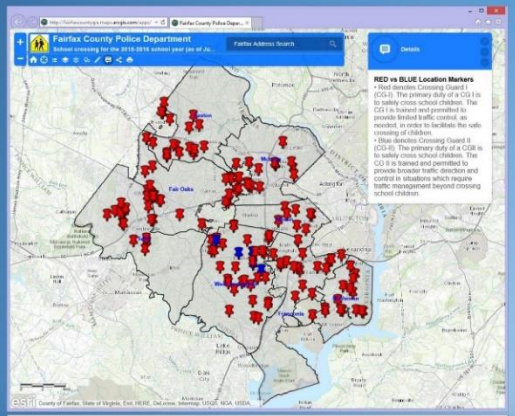


Historical election results maps portal:
http://www.fairfaxcounty.gov/maps/elections_portal.htm

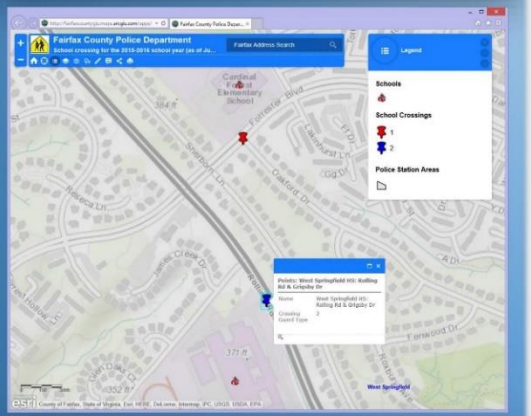
Available on Mobile

Election Results Portal

Fairfax County Police School Crossing Guard Web Application

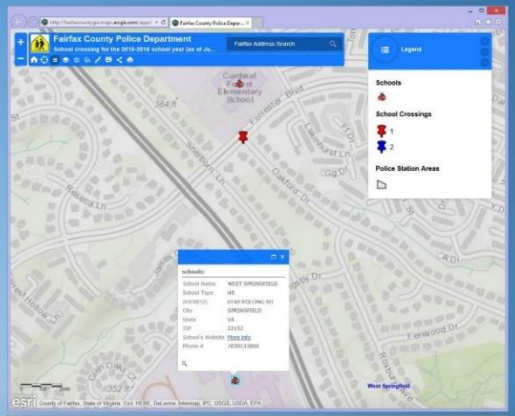


County wide view broken up by the 8 different police station area. School crossing locations are identified by either a red or blue push pin. Red push pins represents Crossing Guard skill level I while the Blue push pins represents Crossing Guard skill level II. The menu bar allows the user to search by address, Change basemaps, Turn on and off layers, measure, print and share the map with others web base apps.



More data can be obtained from the map when each icon is clicked on. Each pushpin will return the school names it's associated with and the crossing guard type. In addition is the user clicks within the map the Police Station area will be returned.

Online school crossing map was made for Colonel Edwin C. Roessler Jr's community announcement. Fairfax County Police Department in partnership with our great community, Fairfax County Public Schools (FCPS), and the Virginia Department of Transportation, began a process to prepare for the start of the school in the fall. Our mutual goal was to provide education to the community and continue to provide for the children, pedestrians and commuters to and from the schools. To ensure safe crossing and efficient vehicle traffic flow, re-trained and upgraded crossing guards were positioned at key intersections. This map allows the community members to locate their child's school and identify the safe crossing location. In addition, the map includes information about the schools and gives the user the ability to view the school's website for more information.



Information about the schools near the crossing guard's location can be obtained by clicking on the school icon. The school name, Type, Address, phone number and a hyperlink to the schools website is displayed with the window.

Additional information about the school can be gained from school's website, which can be accessed directly through the application. A new window opens up so the user can continue to use the map while viewing the school's website.

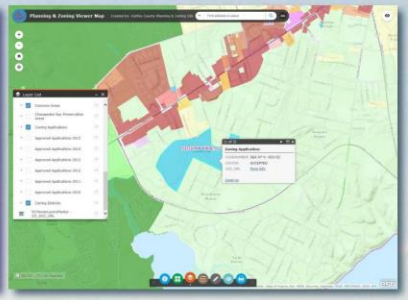
Data obtained from Fairfax County and Public Schools.
Map made by: Fairfax County Police IT Bureau Jeff Gallagher

http://fairfaxcountygis.maps.arcgis.com/apps/Viewer/index.html?appid=708ad1ef5c924029a9d12125d4c17ee8

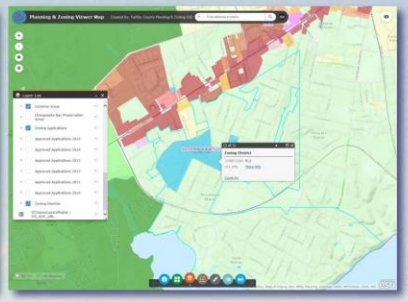
School Crossing Guard Web Application

Fairfax County Department of Planning & Zoning
Sharing Information through GIS

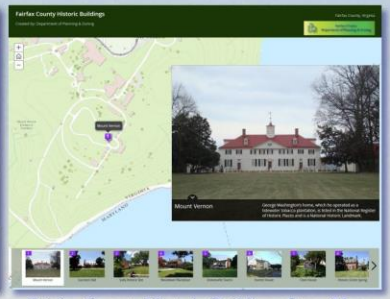
Planning & Zoning Map Portal



Planning & Zoning Viewer
Links directly to the Land Development System

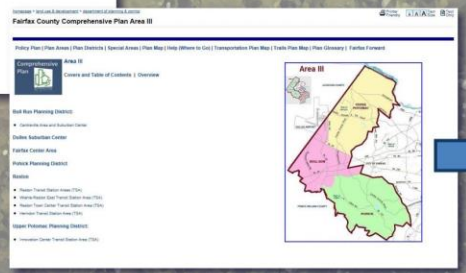


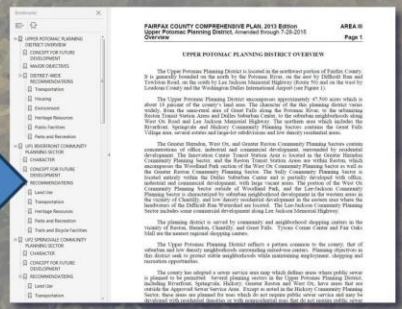
Planning & Zoning Viewer
Links to the Zoning Ordinance Text



Fairfax County Historic Buildings Story Map

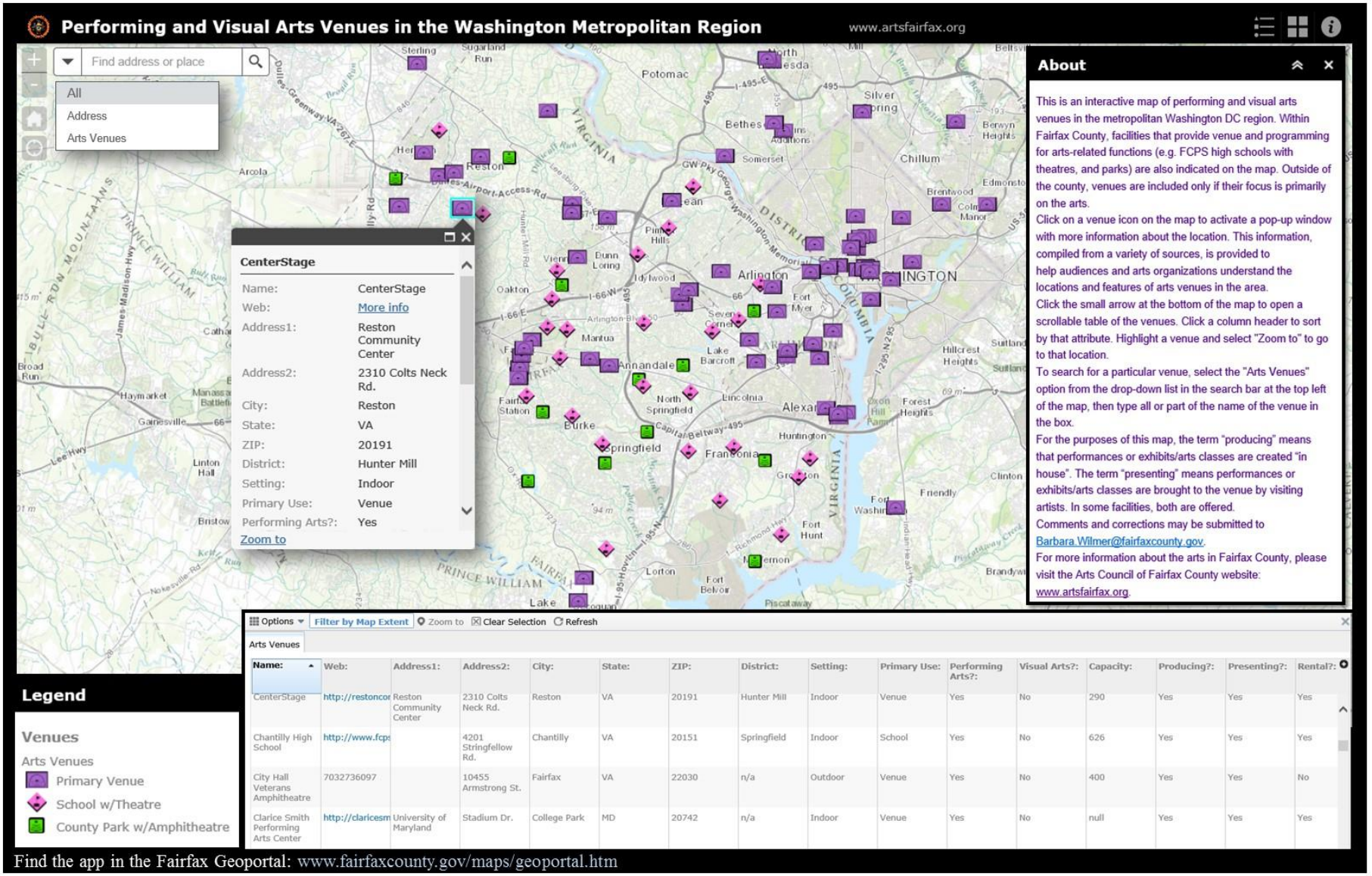
The Comprehensive Plan Map Tool





The Fairfax County Comprehensive Land Use Map is the latest official map incorporating Plan amendments adopted by the Board of Supervisors. Recently added GIS created Comprehensive Plan Maps online include, Plan Areas, Plan Districts and Special Plan Areas which utilize interactive geographic reference access to plan language for those areas of the Plan.

[DPZ Map Portal Page]

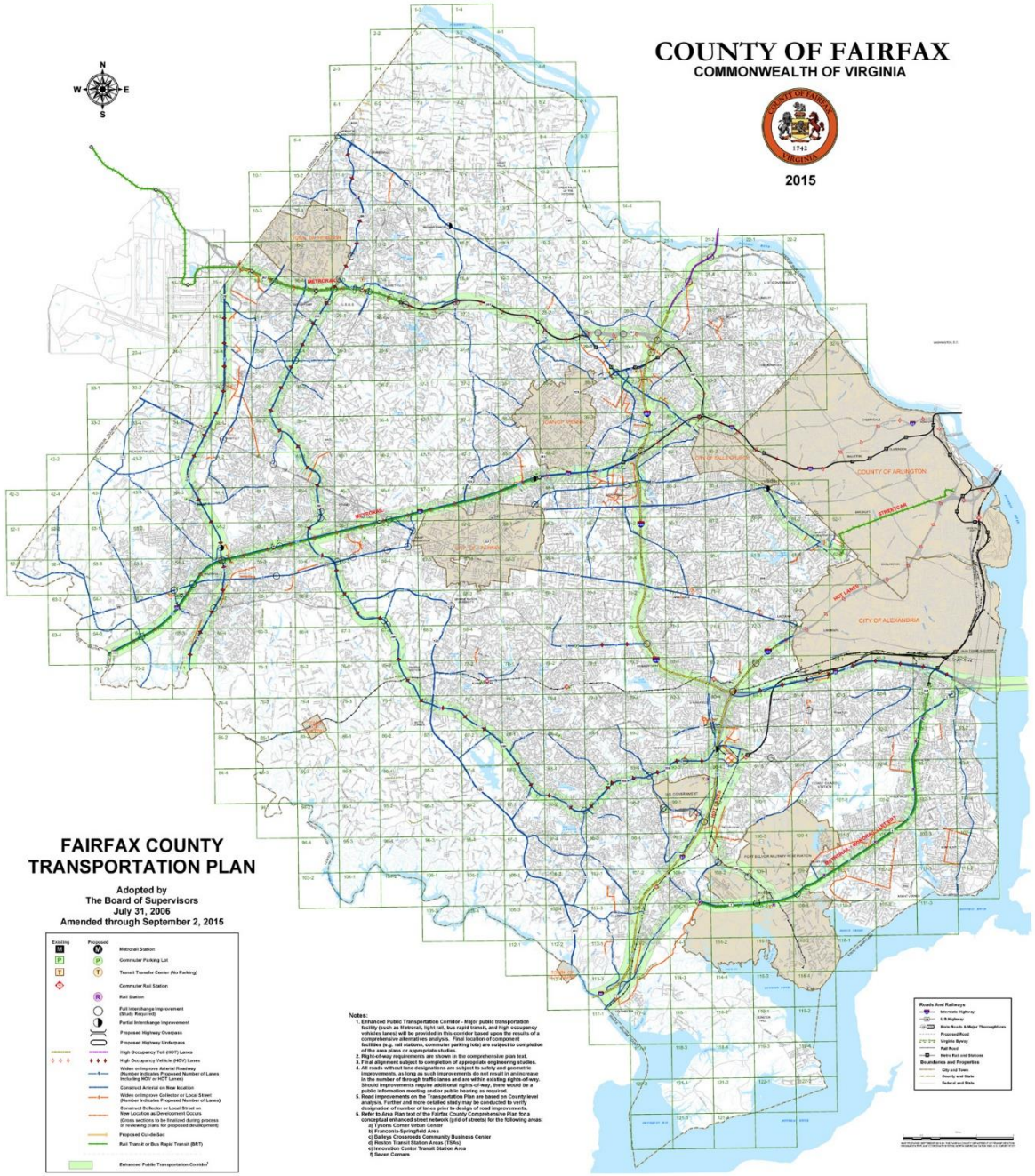


Find the app in the Fairfax Geoportal: www.fairfaxcounty.gov/maps/geoportal.htm

Performing and Visual Arts Venues Web Application

COUNTY OF FAIRFAX
COMMONWEALTH OF VIRGINIA

2015



FAIRFAX COUNTY TRANSPORTATION PLAN

Adopted by
The Board of Supervisors
July 31, 2006
Amended through September 2, 2015

Existing	Proposed	
M	M	Metrorail Station
P	P	Commuter Parking Lot
T	T	Transit Transfer Center (No Parking)
		Commuter Rail Station
	R	Rail Station
		Full Interchange Improvement (Study Required)
		Partial Interchange Improvement
		Proposed Highway Overpass
		Proposed Highway Underpass
		High Occupancy Toll (HOT) Lanes
		High Occupancy Vehicle (HOV) Lanes
		Widen or Improve Arterial Roadway (Number Indicates Proposed Number of Lanes Including HOV or HOT Lanes)
		Construct Arterial on New location
		Widen or Improve Collector or Local Street (Number Indicates Proposed Number of Lanes)
		Construct Collector or Local Street on New Location as Development Occurs (Cross sections to be finalized during process of reviewing plans for proposed development)
		Proposed Cul-de-Sac
		Rail Transit or Bus Rapid Transit (BRT)
		Enhanced Public Transportation Corridor[1]

Notes:

1. Enhanced Public Transportation Corridor - Major public transportation facility (such as Metrorail, light rail, bus rapid transit, and high occupancy vehicles lanes) will be provided in this corridor based upon the results of a comprehensive alternatives analysis. Final location of component facilities (e.g. rail stations, commuter parking lots) are subject to completion of the area plans or appropriate studies.
2. Right-of-way requirements are shown in the comprehensive plan text.
3. Final alignment subject to completion of appropriate engineering studies.
4. Road improvements on the Transportation Plan are subject to safety and geometric improvements, as long as such improvements do not result in an increase in the number of through traffic lanes and are within existing rights-of-way. Should improvements require additional rights-of-way, there would be a public information meeting and/or public hearing as required.
5. Road improvements on the Transportation Plan are based on County level analysis. Further and more detailed study may be conducted to verify designation of number of lanes prior to design of road improvements.
6. Refer to Area Plan text of the Fairfax County Comprehensive Plan for a conceptual enhanced street network (grid of streets) for the following areas:
   a) Tysons Corner Urban Center
   b) Franconia-Springfield Area
   c) Baileys Crossroads Community Business Center
   d) Reston Transit Station Areas (TSAs)
   e) Innovation Center Transit Station Area
   f) Seven Corners